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ABSTRACT

The goals of the first phase of a career exploration project were to change attitudes toward the world of work, upgrade values, and improve the self-concepts of approximately 550 Grade 7 and 8 disadvantaged youth in two Hartford middle schools. This was accomplished through a number of experiences and activities developed in five classroom units and three counseling procedures. The classroom units focused on distribution, manufacturing, office, health service, and general service occupations, while the vocational counseling techniques were concerned with self-concepts, interests, and the decision making process. Early in the project, a broad-based advisory committee representing the major industries and employers in Hartford was established. The teachers and counselors participating in the project and the advisory committee formed six sub-committees, and each sub-committee developed a unit covering their particular occupational cluster. The project did not accomplish all its goals but a beginning was made. In subsequent years the project will be projected down into the elementary grades and up into the secondary schools with the aim of developing a comprehensive K-12 program. (SB)

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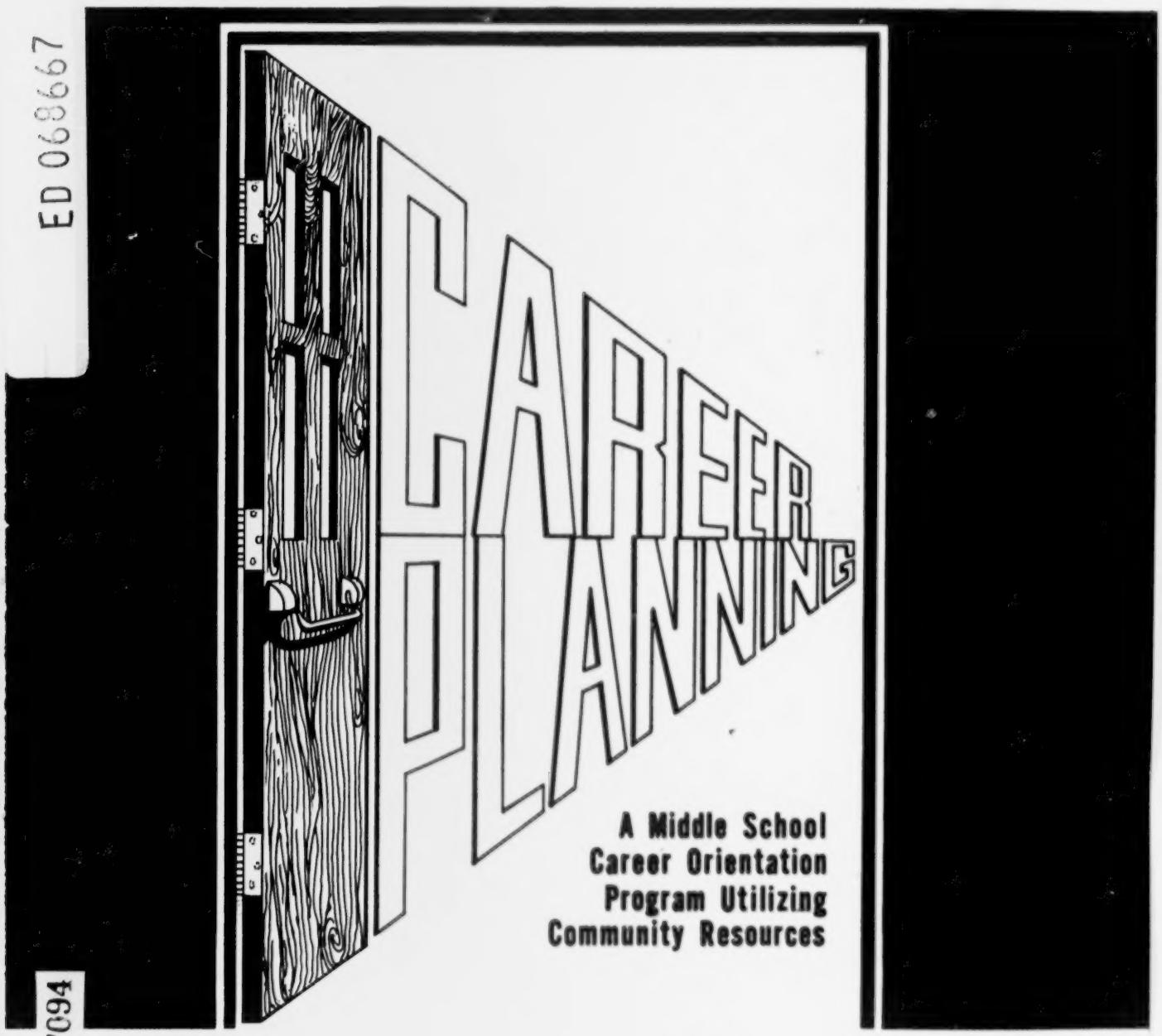

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MIDDLE SCHOOL

WORLD OF WORK, VOCATIONAL SELF-CONCEPT AND CAREER PLANNING

Final report

Charles J. Quinn
Career Education Department
Hartford Public Schools
249 High Street
Hartford, Connecticut

June 26, 1972

CONNECTICUT STATE DEPARTMENT OF EDUCATION
DIVISION OF VOCATIONAL EDUCATION
RESEARCH AND PLANNING UNIT
HARTFORD, CONNECTICUT

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CONNECTICUT STATE DEPARTMENT OF EDUCATION
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PREFACE

The American Public School System has, since its inception, been formed for preparing our youth to take their place in society as worthwhile, contributing citizens. Traditionally, this has been accomplished through academic preparation for living. The members of this project would like to expand this idea of preparation for living to include preparation for making a living.

Sidney Marland Jr., U.S. Commissioner of Education, said in an address at the 1971 convention of National Association of Secondary School Principals: "It is terribly important to teach a youngster the skills he needs to live, whether we call them academic or vocational, whether he intends to make his living with a wrench, or a slide rule, or folio editions of Shakespeare. But it is critically important to equip that youngster to live his life as a fulfilled human being." In this respect we feel career information and career guidance are extremely important.

If the youth of our cities are to cope with the demands of adulthood they need to have the exposure and experience, at their level of understanding, which will enable them to evaluate their potentialities, their aspirations and the conditions confronting them. They must be given the opportunity to explore the World of Work, apply knowledge they have acquired and to develop appropriate attitudes toward themselves and others. To this end, hopefully, this project will have some contribution.

Sincere thanks for their help is extended to many companies, agencies, educators and individuals who cooperated in making this project possible. A list of all these organizations and co-workers is too long for inclusion here. However, special appreciation is extended to Mr. Morgan Chamberlain of the Fox Middle School for his most wonderful technical help in the field of audio visual materials and to Mr. Joseph Lenihan of the Southern New England Telephone Company who in his capacity as chairman of the Advisory Committee, brought the schools and the community together in a fine cooperative effort.

Charles J. Quinn
Project Director

SUMMARY

For several years there has been a growing awareness of a need for exposing youngsters in the elementary and middle schools of Hartford to the World of Work. In the hopes of meeting the need, this program was developed. The specific purpose of the program was to give students, especially the disadvantaged, an opportunity to view the great panorama of career options available to them. During the 1971-72 school year, Phase I of the project focused on the 7th and 8th grade students. In subsequent years the program will be projected down into the elementary grades and up into the secondary schools with the aim of developing a comprehensive K - 12 program.

It was the goal of the 7th and 8th grade phase of this project to change the attitudes, upgrade values and improve the self-concepts of the disadvantaged youth toward the World of Work. This was accomplished through a number of experiences and activities developed in five classroom units and three counseling procedures. The classroom units focused on Distribution Occupations, Manufacturing Occupations, Office Occupations, Health Service and General Service Occupations. The vocational counseling techniques are concerned with self-concepts, interests and the decision making process.

Because of limited resources and a desire to try out the feasibility of using the community and school as a cooperating team, the participation in the program was limited to approximately 550 students in two Hartford middle schools.

A broad based advisory committee representing the major industries and employers in Hartford was named early in the project. The teachers and counselors participating in the program held a joint meeting with the advisory committee and decided to form six sub-committees corresponding to the five career areas and the counseling procedure. All members of the advisory council, teachers and counselors were urged to volunteer to serve on one of these sub-committees.

Each sub-committee was given the assignment of developing a unit covering their particular occupational cluster that could be covered in approximately ten class periods. The sub-committees completed their assignments and the implementation of the program started January 31, 1972.

During the developmental period, October-January, a thorough search was made of what other school systems are doing in the field of career orientation. An extensive search for audio visual materials was made and many films reviewed.

One-hundred-two visits by classes or groups of students to industrial and business establishments was made between February 1 and June 2%. These trips involved approximately 580 students, 27 teachers and 5 guidance counselors. During this same period of time 79 representatives of industry and other community agencies have visited the classroom to discuss with students careers in a particular field.

This program has done a great deal to establish a working relationship between the schools and the industrial and business community. It has given students exposure which was its basic purpose and it has begun to establish in the minds of youngsters the dignity to various ways that people earn a living.

The project certainly did not accomplish all the quantitative or qualitative goals it set for itself but an excellent beginning was made.

Recommendations

1. Develop an In-Service training program for teachers that will give them a feeling for the objectives of the program and an exposure to the business community prior to the time they introduce the units to their classes.

2. Develop a program for orienting the individuals in the business organizations who will come in contact with the students to the objectives of the project. To help these individuals develop a presentation and itinerary that will give the students the kind of exposure needed to meet the objectives.

3. Review the classroom units with the aim of making them more comprehensive, and applicable to serving all students in Hartford's 7th & 8th grades.

4. Develop more units pertaining to the basic study of economics and how the World of Work operates.

5. Develop a library of materials and audio visual aids that will supplement and support the classroom teacher. No matter how energetic or how resourceful a teacher may be, he cannot be an encyclopedia of information on careers.

6. Develop materials and units which will build wholesome attitudes toward all useful work.

7. Develop a directory of community resources and people who would be available to teachers and students on an individual basis.

BACKGROUND AND SETTING

For several years there has been a growing awareness of a need for exposing youngsters in the elementary and middle schools of Hartford to the World of Work. The belief that an individual can determine his own way of life is a fundamental principle of American democracy. Yet the "American Way" is not completely applicable to all Americans. The children of the disadvantaged, the poor whites, blacks, Puerto Ricans, and others who are not members of middle class America do not have the same chance to choose their work or determine the type of life they wish to have. Although there are various reasons for this situation, one of the basic factors is that many youth, especially the disadvantaged, are unaware of the great panorama of career opportunities available to them. Therefore, on the premise that many students in the Hartford schools are not aware of their career options, this program was initiated. The purpose was to give inner city youngsters in the 7th and 8th grades exposure to the World of Work and in so doing help them to understand it, identify with it and to begin to match themselves with various career requirements.

It was the goal of this program to change the attitude, upgrade values and improve the self-concept of the disadvantaged youth toward the World of Work. The basic objectives of the program were:

1. To provide students with experiences and information in the system which supplies man with his economic goods and services usually referred to as the World of Work.

2. To provide middle school students with a realistic method of investigating this World of Work.

3. To provide students with ideal work role models.

4. To develop in students a respect for work and an appreciation of its importance to the individual's and society's well being.

5. To provide appropriate assistance for each student in terms of his needs in making decisions in relation to career studies and in resolving his individual problems.

6. To provide appropriate situations for students to have an opportunity to make decisions, to discuss and examine the decision making process and to understand the basis for evaluating one's decision.

7. To provide motivation to students for broadening their horizons and to give them an opportunity to develop more adequate self-images.

8. To provide students with experiences and information by which they can manage and modify the environmental factors to insure a satisfying impact upon their career future.

9. To develop closer ties between the school system and the people served by it with the hope this will permit optimum utilization of community resources including the advice, participation, and counsel of local citizens.

The full proposal for this project envisioned a program that would contain a number of experiences and activities starting in the primary grades and extending through the secondary school. The middle school program that is being reported in this paper is Phase I of the overall project.

Because of limited resources and a desire to try out the feasibility of using the community and school as a cooperating team, the participation in the program was limited to approximately 500 students in two Hartford middle schools. The two schools chosen for the pilot program were the 240 pupil Moylan School on Hillside Avenue and the new 1600 pupil Lewis Fox School on Greenfield Street.

METHODS - PROCEDURES AND INVOLVEMENT OF PERSONNEL

The Hartford School System was notified in June, 1971 by the Connecticut State Department of Education that Phase I of the World of Work project was approved and funded for one year starting August 1, 1971. A project director was designated on July 1.

During the summer workshop for the middle school staff, all teachers and counselors were informed of the project and given an opportunity to indicate whether they wished to participate.

Fourteen teachers and three counselors indicated a willingness to take part in the project. Prior to the opening of school in September seven more teachers joined the program and two withdrew. During the school year the program has had nineteen teachers and three counselors on a full time basis and two teachers cooperated on selected units.

The project was started with a pre-program planning week in August. During this workshop the general format for the program was developed. After a thorough discussion of the objectives of the project the participants focused on the following methods of accomplishing the goals.

1. Research what other school systems were doing in the areas of career orientation for middle school youngsters. (Over sixty school systems, state education departments and universities were queried on the subject.)

2. Identify the Career areas to be covered. A decision was made to limit the first year's program to five career occupational clusters. The career areas chosen were those most applicable to employment opportunities in the greater Hartford area. These were:

    1. Office Occupations
    2. Health Service Occupations

3. Manufacturing Occupations
4. Distribution Occupations
5. General Service Occupations

3. Identify counseling techniques that will facilitate the process of career development by accomplishing the following counseling goals.

A. To help individuals develop a positive self-concept and a greater degree of self-understanding.
B. To help students develop and use the decision making process more effectively.
C. To help students learn about and understand the range of educational and career opportunities available to them.

With excellent support from the Urban League of Hartford and the Greater Hartford Chamber of Commerce an Advisory Committee was formed. The project was fortunate in obtaining representatives from organizations operating in all five occupational areas to be studied. The members of the Advisory Committee are:

1. Mr. Joseph Lenihan, SNETCO -- Chairman
2. Mr. Peter Gustavson, Connecticut Mutual Life Insurance Co.
3. Mr. Wayne Casey, Travelers Insurance Co.
4. Mr. Norman Wright, Urban League of Greater Hartford
5. Mr. Marshall Jenkins, Urban League of Greater Hartford
6. Mr. Robert Arthur, Travelers Insurance Co.
7. Mr. Paul Aldrich, Society for Savings
8. Mr. David Rogers, Society for Savings
9. Mr. William Britcher, Colt Firearms
10. Mrs. Dolores McCallion, Hartford Hospital
11. Mr. David Brady, Hartford Hospital
12. Mrs. Bess Williams, Hartford Hospital
13. Mr. Lou Fuller, Manufacturing Association of Hartford County
14. Mr. Brayton Bowen, G. Fox & Company
15. Mr. William Snead, Aetna Life & Casualty
16. Mr. Paul Aziz, Greater Hartford Chamber of Commerce
17. Dr. Ray Doane, University of Connecticut

On October 27 the Advisory Committee held a joint meeting with the teachers and counselors who were to participate in the program. It was decided at this meeting to form six sub-committees corresponding to the six areas on which the project would concentrate. All members of the Advisory Counsel, teachers and guidance counselors were urged to volunteer to serve on one sub-committee.

The make-up of the sub-committees was:

Office Occupations

Chairman: Brenda Anderson, Fox Middle
Dave Rogers, Society for Savings
William Snead, Aetna Life & Casualty

Robert Arthur, Travelers
Peter Gustavson, Connecticut Mutual
Wayne Casey, Travelers
Paul Aldrich, Society for Savings
Lola Cohen, Moylan School
Lucy DeCarli, Fox Middle
Dorothy Wheeler, Fox Middle
Louise Rosenberg, Fox Middle
Jon Burr, Moylan School

General Services

Co-Chairmen: Frank Hennessey, Fox Middle
Co-Chairmen: Gint Nenortas, Fox Middle
Ronald Cattinella, Naylor
Joseph Lenihan, SNETCO
Norman Wright, Urban League
Marshall Jenkins, Urban League
Charles Herman, Fox Middle

Distributive Occupations

Chairman: Bessie Matsikas, HPHS
James Ligouri, Fox Middle
Brayton Bowen, G. Fox
Edward Mickiewicz, Fox Middle

Health Services

Chairman: Arthur Corbeil, Moylan
John Wilmington, Fox Middle
Richard Heniz, Fox Middle
Robert DePietro, Fox Middle
Carmen Caamano, Fox Middle
Dolores McCallion, Hartford Hospital
David Brady, Hartford, Hospital
Thomas Morris, Hartford Hospital
Bess Williams, Hartford Hospital

Manufacturing Occupations

Chairman: Robert Riddell, Fox Middle
Charles Quinn, Career Education
Julian M'Lucci, Fox Middle
Anthony Sereslis, Fox Middle
James Bradley, Fox Middle
William Britcher, Colt Firearms
Louis Fuller, Manufacturers Association
Sebastian LaBella, HPHS
John Burton, Dexter Corporation

Counselor-Guidance Committee

Myron Cohen, Moylan
Lillian Thomas, Fox Middle
Ray Doane, University of Connecticut
Gail Hutchinson, Fox Middle
Patrick Tallman, Fox Middle

Consultants

Joseph Constantine, Supervisor of Guidance
Henry Luccock, Assistant Director of Curriculum
John LeConche, Supervisor of Career Education
Eugene Green, Principal, Lewis Fox Middle School
Robert Sernoffsky, House Principal, Fox Middle School
Dino Galiano, Director, Middle Schools
Vincent Mulready, Principal, Moylan School
Joseph Rubera, Vice Principal, Moylan School
Saul Dulberg, Connecticut State Department of Education

Each sub-committee was given the assignment of developing a unit covering their particular occupational areas that could be covered in approximately ten class periods. It was to include:

1. In-class orientation to the particular occupation cluster.
2. Visitations to local business and industry where students could observe and speak with individuals working in these occupations.
3. Visits to the school by workers from semi-skilled, skilled, and professional jobs who would act as a source of first hand information and real identification for students.
4. Activities, materials, and procedures that would enable students to individually explore occupations.

The sub-committee met regularly between October and January developing their particular units. They reported periodically to the Advisory Committee on their progress and problems. Frequently the Advisory Committee was able to give direction to the sub-committees, identify resources and help overcome obstacles which the sub-committees encountered.

The following is a list of resource individuals that were visited at their place of business and/or who visited the schools for sessions with students.

Mrs. Margaret Servick, G. Fox
Mrs. Carol Barbera, G. Fox
Miss Gail Rosso, G. Fox
Miss Nancy Parutka, G. Fox
Miss Shirley Fournier, G. Fox

Mr. Raymond Wood, Stanadyne
Mr. James Higgins, Arrow Hart
Mr. William Graeber, Chandler Evans
Mr. Arthur Cunningham, Veeder Root
Mr. James Flanagan, Allen Manufacturing
Mr. Wayne Casey, Travelers
Mr. William Gomez, Chandler Evans
Mr. George Beeny, Emhart
Mr. William Blount, Emhart
Mr. George Adrian, Farmington Industrial Park
Mrs. Dolores McCallion, Hartford Hospital
Mr. James Butler, Connecticut Savings & Loan
Mr. Richard Callahan, Connecticut Bank and Trust
Mr. David Rogers, Society for Savings
Mr. William Britcher, Colt Industries
Mr. Gerald Washington, IBM
Mr. Thomas English, Prince Tech
Mr. James Sharpe, Darworth Corporation
Mr. Bud Dupont, Chandler Evans
Mr. Emory Marshall, Allen Manufacturing
Mr. Alvin Scruse, Allen Manufacturing
Mr. Herbert Hill, Allen Manufacturing
Mr. John Bok, Allen Manufacturing
Mr. Z. Feuerman, United Aircraft Training Center
Mr. James Harris, Stanadyne
Mr. Robert Wright, Stanadyne
Ms. Brenda Scott, Hartford Hospital, School of Nursing
Ms. Jill Vergie, Hartford Hospital, School of Nursing
Ms. Lynn Floyd, Hartford Hospital, School of Nursing
Ms. Valerie Burroughs, Hartford Hospital, School of Nursing
Ms. Donna Shields, Hartford Hospital School of Nursing
Ms. Olive Grey, Hartford Hospital, School of Nursing
Mr. Martino, Mt. Sinai Hospital, Inhalation Therapy
Mr. Boncek, Mt. Sinai Hospital, Inhalation Therapy
Mr. Philip Morneault, Hartford Hospital, EKG
Ms. Connie Pelletier, Newington Childrens Hospital, EEG
Ms. Frances Lessard, Hartford Hospital, X-Ray
Ms. Jane Henderson, Hartford Hospital, X-Ray
Ms. Judy Zieliulewicz, Hartford Hospital, X-Ray
Ms. Evelyn Scholtz, Hartford Hospital, School of Allied Health, Surgical Tech.
Ms. Elizabeth Young, Hartford Hospital, School of Allied Health, " "
Ms. Carol Grudi, Hartford Hospital, School of Allied Health, IV Therapy
Ms. Nancy Pappalardo, Hartford Hospital, School of Allied Health, IV Therapy
Mr. Gene Tanasi, Prince Tech
Mr. Gordon McPherson, Hilton Hotel
Miss Donna Reed, Hilton Hotel
Mr. Paul Agdens, Connecticut Natural Gas
Mr. Lyman J. McKenzie, HELCO
Mrs. Pat Glazier, SNETCO
Mrs. Cindy Matthews, SNETCO
Mr. James Shea, SNETCO
Mr. Ken Gibson, SNETCO
Mr. William McGuire, SNETCO
Mr. Douglas Dickens, SNETCO
Mrs. Lillian Anderson, Community Resource Person
Mrs. Patricia McMahon, Community Resource Person

Mr. John Donovan, SNETCO
Mr. Peter Kennedy, SNETCO
Mr. Don Hushak, SNETCO
Mrs. Barbara Dubose, SNETCO
Ms. Chickie White, SNETCO
Ms. Sue Hughes, SNETCO
Mr. William Jones, SNETCO
Mr. Alexander Previtali, HPHS, Automotive Instructor
Mr. Joseph Pampuro, Aetna Life & Casualty
Mr. Basil Hayes, Aetna Life & Casualty
Ms. Jean LaBrecque, Aetna Life & Casualty
Ms. Marge Taylor, Aetna Life & Casualty
Miss Glenda Copes, Aetna Life & Casualty
Mr. Dan Pesoni, Monroe Calculating Company
Mr. R. Powell, Olivetti Corporation
Mr. W. Murray, Burroughs Corporation
Mr. Walter Aylsworth, Atwell Company
Mr. Steve Blatney, Dictaphone Corporation

This list does not include the numerous individuals who were observed and who spoke to the students on the frequent class visits to local organizations.

During the developmental period of October through January many programs in other communities and states were reviewed. Some of the most helpful programs that were reviewed were:

1. "Self-Understanding through Occupational Exploration"
   The Oregon Board of Education

2. "Program of Education and Career Exploration" (PECE)
   The Georgia Board of Education

3. "Developmental Vocational Guidance, Grades K-12"
   The Oklahoma State Department of Education

4. "The Maryland Career Development Project"
   The Maryland State Department of Education

5. "Exploring Occupations"
   The New England School Development Council

6. "Introduction to Vocations"
   Division of Vocational Education, North Carolina Department of Public Instruction

7. "Vocational Development in Grades Seven, Eight and Nine"
   The Mid-Hudson Career Development and Information Center

8. "Occupational Essentials"
   Johnson Press, Inc.

An extensive search for audio-visual materials was made. Much of the material that was received was old, out of date and not appropriate to the objectives of the program. The audio-visual libraries of the Hartford School System and the Connecticut State Board of Education were especially lacking in materials pertaining to exploration of careers. Metro and the University of Connecticut libraries did have some up to date material that was useful but it was categorical in nature and not specific to middle school career orientation.

The review did uncover several commercial companies who are producing good films, filmstrips and cassettes on the subject. The future plans of most of these companies looks promising. Once these materials are produced in quantity the audio visual libraries and loan companies that service schools should be able to service the needs of the local schools. At the present time much of the good material has not reached the libraries and is only available on purchase. In the light of the limited curriculum material budget for a program such as this, cost of purchasing films poses a major problem. One twenty minute 16mm color sound film costs approximately $350.

The Office Occupations, Health Services and Manufacturing sub-committees experimented with developing their own material. The Office Occupations group produced a good twenty minute video-tape on several health service occupations. The Manufacturing Committee is in the process of producing a sound cassette to go along with a 35mm filmstrip that was taken in a local manufacturing plant. Although it was found to be time consuming and exacting to produce a worthwhile tape on film it was felt students related much more positively to familiar surroundings and people. The 35mm filmstrip seems to be very adaptable to this type of project. This is especially true when it is used in conjunction with sound recordings. Very little equipment is needed, films are easily edited and synchronized with audiotapes that are made at a later date. Videotape is an excellent media for reproducing both sound and sight under uncontrolled conditions. No special lighting or wiring is necessary but a good deal of camera technique is essential to produce a quality product.

Each of the six sub-committees developed their assigned units. (See Appendix) The implementation of the program was begun on January 31, 1972. The five occupational units were scheduled one per month from February through June.

February	-	Distribution Occupations
March	-	Manufacturing Occupations
April	-	Health Service Occupations
May	-	Office Occupations
June	-	General Service Occupations

There were several reasons for all classes to concentrate on the same unit during a designated month.

1. Maximum use of films and other audio-visual materials which were rented was obtained.

2. Cooperating organizations, agencies and employees could cooperate more efficiently and economically if their personnel and facilities could be used in a concentrated period of time.
3. Displays and simulated activities could be assembled for one period of time rather than several times throughout the school year.
4. A more efficient transportation system could be developed.
5. Classes and teachers could cooperate more fully.

The sixth unit, the guidance unit, was developed as a full semester program and was coordinated with the in-class units over the entire February through June period.

The project would not have been possible without the effective cooperation of many local companies, organizations and agencies. The organizations listed below did an outstanding job of opening their facilities to student visits, arranging for their personnel to visit schools and loaning equipment and displays to the library career center.

1. Aetna Life and Casualty
2. A.I. Prince Technical School
3. Allen Manufacturing
4. Arrow Hart Incorporation
5. Associated Architects
6. Atwell Company
7. Burroughs Corporation
8. Chandler Evans Corporation
9. Colt Industries
10. Connecticut Bank and Trust
11. Connecticut General Insurance Company
12. Connecticut Mutual Insurance Company
13. Connecticut Natural Gas Company
14. Connecticut Savings and Loan
15. Darworth Corporation
16. Dictaphone Corporation
17. Edmunds Manufacturing
18. Emhart Corporation
19. Ensign-Bickford Company
20. Farmington Industrial Park
21. Fletcher Terry Company
22. GEM Electric
23. G. Fox & Company
24. Greater Hartford Chamber of Commerce
25. Hartford Electric Light Company
26. Hartford Hospital
27. Hilton Hotel
28. IBM Corporation
29. Modern Woodcraft Incorporation
30. Monroe Claculating Company
31. Mott Metallurgical Foundry Corporation
32. Mount Sinai Hospital
33. Newington Childrens Hospital
34. Northeast Utilities

35. Olivetti Corporation
36. Society for Savings
37. Sonesta Hotel
38. Southern New England Telephone Company
39. Stanadyne Corporation
40. Travelers Insurance Company
41. United Aircraft Corporation
42. Urban League of Greater Hartford
43. Veeder Root Corporation

FINDINGS AND ANALYSIS

The original proposal for this project clearly defined the goals and objectives. During the pre-porgram planning week in August, 1971 the general format for the project was developed. Assignments for the various teachers, counselors and advisory committee members were finalized in October.

The sub-committees each met and developed their units independently. When a sub-committee completed its unit it reported back to the joint Advisory-Staff group, where the unit was reviewed. After the review and any final revisions were made, the unit was issued to the teachers participating in the program.

The following evaluation and analysis of the various units was made after the units and testing questionnaires were completed.

Distribution

The basic understanding that the student should derive from this unit is that whatever he does, wherever he may go, at whatever time in his life, he is perpetually surrounded by some phase of the distributive occupations, be it goods or services. Thus, this unit was to give students exposure and awareness of the broad field of distribution. If the student became aware of the tremendous variety of opportunities for employment open to him in keeping with his attitudes and abilities he will have found for himself a vast area of choices within this field from entry level jobs through to career possibilities.

As with any developmental unit, this one began with a situation very familiar to the student, buying a hamburger at a stand. In analyzing the number of people involved in making this simple purchase possible, the student becomes aware of many other distributive occupations from the production of the raw material to its ultimate form as a consumer product.

This technique was very favorably received by the teachers and the students. In many classes this type of analysis was used with many other familiar products such as a bicycle, an automobile and a school lunch.

The instructional goal for this unit was to help students become acquainted with a wide range of occupations which might be classified as distributive occupations. The minimum acceptable level of student performance was that each student would be able to name and generally describe several distributive occupations.

These instructional and performance goals were met exceedingly well according to this evaluation. On the Distributive Occupations Inventory (see appendix) which was given to each student prior to his exposure to this unit and again after he had completed the unit, the following result was obtained.

Average Scores:	Pre Test	Post Test	Pre Test range	Post Test range	% of gain
	8.1	15.4	3-17	6-20	90

The result clearly indicates the students' general understanding and performance was improved after completing the unit. The test focuses on distribution in general and not on individual occupations. The student is not asked to name or describe any specific occupations, therefore, there is no evidence to indicate the student or students have or have not attained the minimum acceptable level of performance.

The simulated situations and role playing in class were very well received by the teachers and students. Many classes made up their own situations and skits that were acted out. In future years the classes might secure a variety of dummy merchandise, with which students could practice setting up a make-believe store in the classroom and actually have the experience in receiving merchandise, pricing, arranging displays, selling, ringing up sales and making change. This last area, making change, can be used even without the store, by using a cash drawer and play money. Perhaps some teachers might actually develop a small school store in which items are sold.

One thing planned, but not implemented this year, was a trip to the high school Distributive Education class and store. Hopefully, this will be tried next year so that students may become aware of the possibility of gaining initial training while still in high school.

Manufacturing

The Manufacturing sub-committee developed specific instructional goals and behavioral objectives. (See appendix, "Exploring Manufacturing and Allied Mechanical Occupations")

The thinking of the committee inclined toward an approach which would center upon a limited number of typical manufacturing occupations which would be selected and studied by each student. It was felt that by studying, observing, and interviewing performers of a few specific jobs, a student would develop a more profound understanding of what it would be like for him to work at such a job and thereby, involve himself in the manufacturing phase of the world of work. The manufacturing unit was developed from this point of view.

Briefly, the manufacturing unit may be broken down as follows: (i) an introduction to the concepts of manufacturing and the manufacturing process; (ii) an identification of manufacturing plants in greater Hartford and their products, (iii) a description of the basic manufacturing jobs performed locally, (iv) preparation activities for student plant visitation including (a) a visit of a factory resource person to the classroom and, (b) student visit to a school shop to view basic manufacturing machines (milling machine, lathe, drill press), (v) student visitation to a manufacturing plant, and (vi) student visitation to training facilities for manufacturing jobs.

Manufacturing plants which participated in student visitations were Allen Manufacturing, Arrow-Hart, Stanadyne, Veeder Root, Ensign-Bickford, Emhart, Chandler Evans, (Farmington Industrial Park: Fletcher Terry Company, Edmunds Manufacturing, Gems Electrical Company, Mott Metallurgical Foundry Corporation, Modern Woodcraft Inc., and Associated Architects), and the Travelers Print Shop. Participating training facilities were the Hartford Public High School Industrial Arts Department, the A.I. Prince Technical School, and the United Aircraft Corporation Training School.

In the implementation of the manufacturing unit, enthusiastic cooperation was obtained from the participating plants and institutions. Student response to the visitations was generally highly enthusiastic. From data obtained, student performance on the manufacturing post-test shows a marked improvement over that on the pre-test.

A twenty-five item evaluative instrument was developed by the committee to be administered to the students both before and after the completion of the manufacturing unit. The result of this pre-post test was a good indication of the effectiveness of this unit.

	Pre-Test	Post Test	Pre-Test range	Post-Test range	% of gain
Average Scores:	7	13.5	3-12	4-20	92.9

Out of the 390 students who completed both the pre and post test, 345 showed an improvement in knowledge and understanding of the manufacturing occupations. However, in the implementation of the manufacturing unit, some points were not achieved to the degree originally intended by the advisory committee. These consisted of (i) the focusing by each student upon a few specific manufacturing jobs, (ii) the student visit to a school shop to gain familiarity with basic types of manufacturing machines before going on the plant visitation, and (iii) joint planning of teachers and factory resource persons for pre-visitation and visitation activities.

It is recommended that these three items be much more strongly emphasized in the planning for and the implementation of the manufacturing unit next year. It is also recommended that the evaluative instrument be revised for next year.

We are very pleased with the successful beginning which has been made in the area of manufacturing this year; we are looking forward toward making the revisions and improvements, which only this year's experience has made it possible to make, that will make the program a more solid contribution to the future success of the students in the World of Work.

Health Services

The sub-committee for this unit decided to rely a great deal on simulations and displays in the school. This decision was made because of the difficulty in having students visit and observe in hospitals.

The displays depicted various personnel in actual job situations. Through the cooperation and courtesy of the Hartford, Mount Sinai and Newington Hospitals, a group of staff members depicted various medical occupations with the equipment that they used in the performance of their tasks. One highlight of these displays was the fact that children were actually able to handle and use the equipment themselves. Along with this, instructions were given by hospital personnel on their occupational functions, training necessary to qualify and the role they played on the hospital team.

The Health Service display was set up in the Fox Middle School Resource Center for three days. This comprehensive display included eight technical areas. These booths were ably manned by twenty-five technicians from the three hospitals cooperating. The technician areas covered were: Surgical technician, Intravenous technician, X-Ray technician, Inhalation technician, Medical Laboratory technician, nursing, Electrocardiagram technician and Electroencephalogram technician.

After the week of displays, visitations to the Hartford Hospital were arranged for students who indicated a further interest in health service careers. Approximately 125 students visited various sections of the hospital to observe and speak with health service technicians on the job. These visitations were done in small groups. The areas visited were the medical laboratories, physical therapy, admissions, occupational therapy, and the X-Ray laboratories. There was a special excursion to the Cardiac section for one student who expressed particular interest in this area. It is hoped this youngster will gain meaningful experience in this area through an opportunity for a summer job offered him by the hospital.

The Health Service sub-committee attempted to video-tape a segment at the Hartford Hospital. Their plan was to use this in classrooms for orientation to sensitive areas of the hospital such as operating rooms, emergency rooms, that could not be visited by students. This endeavor was the least successful aspect of the unit. But this attempt pointed out the need for technical assistance in developing quality films and tapes for use as teaching aides.

The result of the pre-post inventory in the Health Service Areas was as follows:

	Pre-Test	Post-Test	Pre-Test range	Post-Test range	% of gain
Average Scores:	9.2	17.8	4-15	7-20	93.4

In evaluating this unit it must first be pointed out that Health Services posed a real challenge for presentation to middle school students. The committee used ingenuity in giving the youngsters an excellent exposure to the many technical fields. The work of this sub-committee very definitely showed that the schools with the cooperation of the community agencies can present through simulation and real live displays a realistic and comprehensive orientation to careers. This method can very definitely be used in many other fields of work if the teachers, counselors and advisors will use their ingenuity and resources.

The following recommendations are what teachers, counselors and the sub-committee members indicated could improve the program.

1. More time should be scheduled for program planning.
2. More health agencies should be involved. (This is certainly true if the program is to expand to all the middle school students of the Hartford schools.)
3. More use must be made of audio-visual materials.
4. An effort should be made to develop more publicity to make the community aware of the program and to ask for their participation in it.
5. A closer working arrangement among teachers for more effective planning.
6. More effective use of students must be developed in determining or advising what the program should cover.
7. Displays should be extended over a larger period of time.
8. More active participation of community in setting up the program.
9. Pre-project information should be made available to all teachers concerned.
10. Miniature displays should be developed which could be set up in libraries and classrooms for extended periods of time.
11. A more effective preparation and utilization of classroom materials should be developed.
12. A more effective device to measure the success or failure of the project should be developed.

Office Occupations

The committee attempted to develop an instructional packet that would broadly define its objectives as well as specifically define any terms, job descriptions and occupational goals that might be included in the packet. The purpose of these definitions was to provide a broad basis of reference for the instructor who might not be completely familiar with all the careers offered in office occupations and make the entire packet more meaningful to the students.

The "Exploring Office Occupations" unit (see appendix) gave the students an opportunity to explore office occupations both for the purpose of sepf-appraisal in relation to this type of work and to understand better the services that persons in these occupations contribute to society. This unit did an excellent job of identifying entry level positions and positions to which these entry level occupations could eventually lead. Specific individuals working in the various positions were made available to students to observe and converse with about the duties, training and reward of their occupation.

The sub-committee also arranged and invited companies to come to the schools to display and demonstrate to students office machines found in modern offices. These companies were very effective in discussing with the students opportunities in the field of office occupations.

Two instructional video-tapes were made. One is a classroom scene discussing occupations with a follow-up trip to a branch bank where students

interviewed various individuals who worked in the bank. The other video-tape was a job interview series that emphasized the do's and don'ts of a job interview. Both of these films were informative and were used in conjunction with several career occupation programs.

The result of the pre-post inventory for the Office Occupations unit is not available. Unfortunately, the distribution of the inventories was not made until many of the classes were well into the unit. The post inventory was administered, but there are no basic scores with which to compare it. The career interest inventory that was done as part of the counseling units does show a change in interest and attitude toward office occupations. This inventory shows a 35% increase in interest in the field of office occupations from the time this inventory was given at the beginning of the project and then again in the later part of the program.

Although the office occupations unit developed by the sub-committee was exceptionally successful the committee in evaluating their outcome gives the following recommendations for next year.

1. More in-service interaction between teachers and industry so that both factors will be able to deal more effectively with teaching students.

2. More video-tape exposure where small groups of students have meaningful learning experiences that they later share with their peers. (Note: The taping should be well planned and executed by highly competent technicians.)

3. More simulation and role playing as was shown to be effective when companies brought office machines to the school and the students actually operated these machines.

General Services

The final unit, General Services, was originally planned as a catch-all type unit that would cover a few of the myriad services that could be classified under this heading. The sub-committee planned, therefore, to make this unit an open-ended project. They covered five general services: telephone, electrical, construction, hotel, and automotive, with the understanding teachers might like to add other service areas of their own.

The General Services unit was the last of the units implemented and at this writing is still in operation. Students were exposed to the five service areas covered through a series of class discussions, films and filmstrips, presentations at the school and field trips. Through this method of presentation, the students involved in the General Services have been presented and are cognizant of the number and variety of occupations included in each field, as well as employment opportunities.

The following is a brief description and report compiled from several teachers involved with this unit.

Telephone Service Occupations

In this area, students were exposed to the managerial, technical and clerical occupations involved in the telephone service occupations. This was achieved through class discussion, filmstrips, school presentation by the telephone company's mobile unit and visits to the telephone company's offices and field operations. Students were made aware of the intricacies of the telephone operation, the many occupational opportunities and the advantages offered in this field.

Electrical and Other Utility Service Occupations

This area of general services was implemented through class discussions, a film, filmstrip and a visit to the HELCO and gas company training sites. This unit was well handled but did not cover female occupations. The girls who took part in this unit were somewhat disappointed. Many of the male students were very enthusiastic and were given excellent opportunities to handle equipment and talk with the various linemen, technicians, engineers, etc. about their occupations.

Automotive Occupations

This unit was covered by in-class discussions, an excellent demonstration by a high school automotive teacher and three of his students, and visits to local gas stations and body shops. The film and filmstrips utilized by the automotive teacher were very relevant to a world of work project in that it depicted the three students in actual working and training operations.

Construction

After a period of class discussion about the various trades and occupations in the field of construction, two filmstrips and a 16mm sound film were used to highlight for students several construction skilled trades.

The classroom phase was followed by a trip to A.I. Prince Technical School where students had an excellent orientation to the construction trades taught there. Students were finally taken to a construction site and given the opportunity to observe and talk with students training in various construction trades. This unit was very well done and students and teachers were enthusiastic in their praise.

Hotel Occupations

The final general service area covered was the hotel field. Students were oriented to this area through class discussion and two excellent sound filmstrips. The classroom phase was followed up by visits to the Hilton and Sonesta Hotels of Hartford. The hotel management in both establishments did an excellent job of showing the various types of occupations in this field from a dishwasher to hotel manager. Students were given an opportunity to observe and talk with individuals at all levels of the hotel operation. Hotel representatives discussed career opportunities, training available and aptitudes and attitudes necessary for success in the hotel field.

This General Service unit can be greatly expanded and improved upon by careful planning. In the future it would be advantageous if students received an overall presentation of the unit first. This could be undertaken by an attractive display area somewhere in the school. A great many general service occupations could be covered by having technicians and tradesmen visit the classrooms. In general the goals for this initial year were accomplished. The students were given an opportunity to become acquainted with various occupations and occupational requirements. They are more aware of the means for acquiring occupational skills and understanding of the various occupational benefits. Finally, this unit served to explain and demonstrate that one can and should obtain a great deal of satisfaction from their particular occupation.

Career Guidance Unit

The sub-committee developing this unit strongly felt students must be given a clear picture of the many career options available to them, and they must be given this opportunity to become acquainted with the world of work early enough in their school career to be able to take advantage of schooling and training that will lead to a vocational choice. In this context the committee felt career guidance is extremely important on the elementary and middle school levels.

The area of career guidance developed by this unit deals with an individual's comprehensive knowledge about himself, self-appraisal of the career talents with which one has been endowed and assessment of the extent and limitation of an individual's interest, aptitudes and psychological needs. To this end two instruments were developed.

The first instrument Self-Inventory (see appendix) helped to determine how a student viewed himself, his self-image, or self-concept. Using the scale from 1-7 for all items except 8, 9, 15, 16, 17, 20, 23, 27, 31 which has to be reversed, a score is determined for each youngster. The lower the score the better the self-concept the student has of himself.

POSITIVE				NEGATIVE		
Very	Somewhat	Slightly	Neither	Slightly	Somewhat	Very
36	72	108	144	180	216	252

Each counselor used the scores for either individual counseling or group counseling. In some cases the counselor determined a student with a generally poor concept needed continuous help or further services either within the school system or from an outside agency. In other cases students needed counseling for a short period of time on specific items.

The self-inventory was administered to approximately 450 students who were involved in this project. General in-service sessions were held with the counselors of the students involved so that all counselors understood the scoring and use of the inventory.

Preliminary findings indicate that approximately 70% of the students have a slightly positive self-concept, about 12% fall into the extreme or very positive and about 12% have a very negative self-concept. The students in the slower classes, i.e. basic study groups, have in general, a poorer self-concept than other students.

After counseling and again taking the self-inventory, approximately 60% of the students in the negative self-concepts showed an improvement.

The second instrument developed was the Interest and Career Information Inventory (see appendix). The 160 questions are divided into seven categories as follows: Office Occupations, Health Service Occupations, Distribution Occupations, Manufacturing Occupations, General Services, Social Services and Engineering. The student checks off his decisions (his likes, dislikes, not sure or don't understand). After doing this the student transfers his likes on the bar graph (see appendix), following the instructions outlined. Those scores that are at or above the 70th percentile would be areas that a student showed interest and should explore further. Thus, with a counselor's help or other trained personnel, the student might begin to make some exploration in one or more career areas.

The don't understand items were used by counselors to identify areas students needed career information. The don't like column also gives the student and counselor an opportunity to clear up or overcome misconceptions.

Result of Interest and Career Information Inventory

Inventory given prior to students exposure to occupational units.

Career Cluster Area	Average Class Responses
Office Occupations	20%
Health Service Occupations	12%
Distribution Occupations	11%
Engineering and Service Occupations	11%
Social Service Occupations	7%
Manufacturing Occupations	7%
General Service Occupations	7%
Students showing no likes above the 55th percentile	32%

Inventory given at end of student exposure to occupational units.

Career Cluster Area	Average Class Response
Office Occupations	27%
Health Service Occupations	27%
Distribution Occupations	18%
Engineering and Service Occupations	22%
Social Service Occupations	9%
Manufacturing Occupations	18%
General Service Occupations	13.5%
Students showing no likes above the 55th percentile	22%

The comparison of the first and second scores clearly indicates a substantial number of students have increased their interest in career areas

after being exposed to information and orientation on the subject. Office Occupations showed the smallest percent of increase, although in total number of students it is the most popular career area. Surprisingly, manufacturing showed the largest percent of increase in student interest. Actually, 157% more students indicated an interest in manufacturing the second time around over the earlier inventory. Probably, the most significant statistic in this table is the 30% decrease in the number of students that indicated a dislike for an item. Another important indication of the effectiveness of the informational aspect is the marked decrease don't understand. Obviously a good portion of the students were more positive about vocational fields after completing the units of this project. This seems to be indicated by the 30% decrease in "no likes over the 55th percentile".

Hand in hand with the above processes goes the development of the decision making skills. Decision making can be defined as a process in which a person selects from two or more possible choices. A decision does not exist unless there is more than one course of action, alternative option or possibility to consider. If a choice exists the process of deciding may be utilized.

The potential value of learning to use the decision making process properly lies in the fact that its practitioner is more likely to be satisfied with his decision. The process requires skills that can be learned, applied and evaluated. Surprisingly, this process is not directly taught in any regular subject matter class that the committee could identify.

A first step that was used in helping students learn the process was to get them thinking about both personal and group values. Considering values removes the implication of "right" answers and emphasizes rather the effective use of a process that results in satisfying consequences. This emphasis distinguishes decision making from problem solving. Problem solving usually involves one best or right solution for everyone.

In this unit the emphasis was directed toward the idea if students can learn to utilize the decision making process skillfully the outcome will be more satisfying. It was emphasized a skillful decision maker has more personal freedom in his life because he is more likely to recognize, discover or create new opportunities and alternatives. He also has greater control over his life because he can reduce the amount of uncertainty in his choices and limit the degree to which chance or other people determine his future.

The decision making materials used in this project were designed by H. B. Gelatt, Barbara Varenhorst and R. Carey and published by the College Entrance Examination Board of New York. This material was piloted in Hartford schools in 1971 and found satisfactory.

The program is divided into three aspects: values, information and strategy (see appendix). Through the guidance process, the student with the help of his counselors will now be more able to make realistic choices

of study at the high school level and/or more effectively select a school, technical, private or regular. Students using this material who go on in school will have knowledge of many career areas which they may further explore through work-study programs. A follow-up of students who used this material this year is planned for the Spring of 1973. The follow-up will attempt to determine how much carry over, if any, the students have as a result of going through the decision making program.

Student-Teacher Evaluation

Probably the best analysis of any project is the evaluation made by those that were involved with it on a day to day basis. An attempt was made to give the students and teachers an opportunity to indicate how they felt about the effectiveness of the program.

The students were asked to rate the program on ten items. (See appendix) These items were rated either excellent, good, fair, or poor. On a value scale of 4, 3, 2, 1, with excellent being 4 and poor 1, the students came up with a very effective rating of 3.54. They were further asked to answer questions as to how they felt about the program and whether they would recommend it to others. Over 98 percent of the students indicated they would recommend the course to their friends and that the course should continue next year. Surprisingly, the majority of students did not think parents should be asked to participate in the program.

Teachers in their evaluation (see appendix) were not quite so enthusiastic. They were asked to rate the effectiveness of the program on the ten original objectives of this project. They rated it a solid 3.0. Teachers were most enthusiastic of the project's success in (a) providing motivation to students for broadening their horizons, (b) developing a self-image and (c) the development of closer ties between the school and community. They were most critical of the assistance given students in terms of making decisions. All teachers indicated the program should continue next year and in most cases they indicated they would like to become more involved.

CONCLUSIONS

Middle School curriculums or guidance programs for the most part either ignore the need of students for exposure to the World of Work or are so antiquated in their approach to the subject that they are of little value. Only a handful of school systems throughout the country were found that are developing or have developed a realistic program.

Conclusion No. 1: There is a real need for developing realistic methods of exposing middle school students to the World of Work.

Conclusion No. 2: Adequate provisions do not exist which will insure a middle school student in Hartford sufficient orientation to enable him to make informed decisions regarding his plans for the immediate future or to become aware of his long range opportunities.

Conclusion No. 3: Research findings on how career choices are made are not being translated into viable guidance programs.

In developing this project the staff focused on the needs of the inner city students in the Hartford middle schools and on the career opportunities that are now available or that are projected for the greater Hartford labor market. As the project progressed it became evident the development of a process through which one can arrive at a career decision rather than learning about specific jobs should be the main thrust of a project such as this.

Conclusion No. 4: A middle school career orientation program should give a student an opportunity to explore many career fields not with the goal of choosing a specific occupation but studying the broad aspects and matching them in a general and on-going way with his abilities, inclinations and aspirations.

The five career areas covered in the classroom units were actually skeletal or "idea" units. These units did not cover, nor did they purport to cover, the complete spectrum of a career cluster. Much more classroom material needs to be developed on the career areas treated in this project and the many other career cluster areas not taken up.

Conclusion No. 5: A good beginning, but only a beginning has been made in development of material to be integrated into academic subjects on career awareness and orientation. Provisions must be developed for students to learn about the entire spectrum of occupations from which he may eventually select his own career.

Conclusion No. 6: Career orientation should be the responsibility of every classroom teacher and every guidance counselor.

The counseling techniques developed or employed in this project on self-concept and the decision making process should become a major effort of the middle school guidance program and should be closely coordinated with the classroom informational aspect of career orientation. Having a general or theoretical knowledge of the world of work will be of little value unless those involved are capable of making wise decisions based on self-knowledge and an understanding of options available.

Conclusion No. 7: New counseling techniques and approaches should be developed expanding on the methods used in this project which will give students an opportunity to relate themselves to the information about career opportunities, make good decisions, and to plan their futures more effectively.

The experience of this project very definitely points out that educators in general are not effectively aware of the broad aspects of the world of work and are not comfortable intrying to present to students a comprehensive view of career information.

Conclusion No. 8: In-service education is needed to increase teachers' and counselors' occupational awareness and their ability to help others develop such awareness.

One of the major thrusts of this project was to use the community as a strong support and partner with the schools in developing a realistic orientation to the world of work. Industry, business, public agencies and individuals have given enthusiastic support to this idea and through their efforts the project has been able to expose students to hundreds of working people at their bench, machine, desk, counter or operating table.

Conclusion No. 9: The community will enthusiastically support the schools and provide invaluable opportunities for students and educators to have first hand experience with the world of work.

Recommendations

This project which started out in the minds of many of the teachers and counselors as a minor part of their year's plan, developed into a major portion of their program by the end of the school year. It is obvious a program with the magnitude for curriculum change that is present in this project will take several years to have its full impact on the schools.

The result of this first year firmly indicates a need for further development of the program. Certainly, modifications, refinements, and expansions should be made where experience indicates the material was inappropriate or weak. In a project as wide in scope as this there are many obvious gaps. Nevertheless, all indications are that the basic idea of the program was sound and much progress was made toward making it an effective means of developing relevancy and meaning in the middle school program.

1. Develop an In-Service training program for teachers and counselors that will give them a feeling for the objectives of the program and an exposure to the business community prior to the time they introduce the units to their classes.

2. Develop a directory of community resources and people who would be available to teachers and students on an individual basis.

3. Develop a procedure for orienting the individuals in the business organizations who will come in contact with the students to the objectives of the project. To help these individuals develop a presentation and itinerary that will give the students the kind of exposure needed to meet the objectives.

4. Develop more units pertaining to basic study of economics and how the World of Work operates.

5. Review the classroom units with the aim of making them more comprehensive, and applicable to serving all students in Hartford's 7th & 8th grades.

6. Develop a library of materials and audio visual aids that will supplement and support the classroom teacher. No matter how energetic or how resourceful a teacher may be, he cannot be an encyclopedia of information or careers.

7. Develop materials and units which will build wholesome attitudes toward <u>all</u> useful work.

8. Strengthen and expand the guidance procedures developed in this program and tie them more closely to the classroom phase of career orientation.

9. Continuously re-examine and strengthen the classroom phase. Much simulation, role playing, dramatics and gaming may be added to make the program more comprehensive.

10. The program should eventually be developed into a challenging experience-centered course which students may pursue on an individual or group basis.

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Mid-Hudson Career Development and Information Center

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Science Research Associates

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Oregon Board of Education

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Maryland State Department of Education

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FILMS

"Money: How It Functions", Coronet Films

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APPENDIX

Classroom Units

EXPLORING DISTRIBUTIVE OCCUPATIONS

This unit is designed to give all students an opportunity to explore distributive occupations both for the purpose of self-appraisal in relation to this type of work and to understand better the services that persons in these occupations contribute to society.

INSTRUCTIONAL GOAL

To help students become acquainted with a wide range of occupations which might be classified as distributive occupations.

MINIMUM ACCEPTABLE LEVEL OF STUDENT PERFORMANCE

Students should be able to name and generally describe several distributive occupations.

OBJECTIVE: The student will bring together whatever ideas he already has about distributive occupations.

SUGGESTED TEACHING-LEARNING ACTIVITIES:

1. A multiple-choice inventory test be given before any discussion is held.

2. A familiar situation be acted out by 2 or 3 students of the class.
   Example: Buying a hamburger at a stand.
   a) Use volunteers if possible.
   b) If a choice, select less capable students, but not shy ones.
   c) Let them plan and act out the skit without assistance.
   d) Encourage them to be creative.
   e) Students take 5-6 minutes to act out the transaction.
   f) Class analyze skit with guidance to include widest possible answers to following questions.

      1) What was bought?
      2) Where did customer come from?
      3) Why did customer buy there?
      4) Where did seller get the products he sold?
      5) What besides meat, soda, etc., does seller need in order to carry on his business?
      6) Who supplies seller with these goods and services?
      7) How do these goods get to the seller?
      8) How does seller know what and how much to buy?
      9) What does seller do to try to increase his business?

3. Students make list of as many different kinds of stores as they can think of.
   Examples:

drug	do-nut
furniture	candy
restaurant	jewelry
clothing	shoe
florist	department
appliance	barber shop
hairdresser	cleaners
fur	pet
leather goods	stationery
gift shop	card shop
movie	book

OBJECTIVE: The student will be able to list a large number of different occupations in the field of distribution involving varying degrees of skill and ability.

SUGGESTED TEACHING-LEARNING ACTIVITIES:

1. Hand student a paper divided into 3 columns:
   Produce Where Made or Grown Where bought

2. Reminding student of discussion regarding purchase at hamburger stand, have student list 5 different foodstuffs (canned or fresh) he has had in his home during the past week, and complete the 3 columns as best he can.

3. Have student list 3 products used in home other than food, and do same as in 2 above.

4. Using student papers as basis for discussion, bring out following points emphasizing workers involved at each stage and skills needed.

   a) Distance of user from grower.
      Example: oranges

   b) Processor buys raw material and sells finished product.
      Example: bread; oil

   c) Different forms of transportation needed.
      Examples: truck, train, airplane, refrigerator cars, tank cars

   d) Ease of buying out-of-season goods
      Example: vegetables in winter

   e) Relative low cost of goods brought long distance.
      Example: lemons

   f) Workers in this country needed to market foreign goods.
      Examples: cameras, cars

   g) Functions of wholesaler.

      1) Buys from many producers in large lots.
      2) Breaks lots to sell in smaller quantities to retailers.
      3) Stores out-of-season goods until retailer needs them.
      4) Makes it easier for small producers to get products to many outlets.
      5) Many jobs in wholesaling for people who are shy and find it difficult to meet people, yet who can be accurate, methodical, etc.

OBJECTIVE: The student will be able to list the great variety of jobs, besides selling, available in stores.

SUGGESTED TEACHING-LEARNING ACTIVITIES:

1. A tour of the downtown G. Fox store covering the following areas: warehouse, telephone order, store, wrapping and packing, and delivery.

   Arrangements have been made with Mrs. Peggy Servick, Director of Training, G. Fox & Co., for 1-hour tours of approximately 50 students to begin at 10 A. M. on the following dates:

   Thursday, February 3, 1972
   Thursday, February 10
   Friday, February 11
   Thursday, February 17
   Friday, February 18
   and if needed and desired
   Thursday, March 2
   Friday, March 3

   In the future, tours may be arranged individually with Mrs. Servick with 2-weeks notice preferred, and 10 A. M. Thursday and Friday being best time and days.

2. A visit to a shopping center.

   After September 1972 arrangements can be made for tours of the Copaco complex on Cottage Grove Rd. in Bloomfield by contacting Mrs. Lynne Waller at Copaco.

3. Speakers from the field of distribution.

   a) G. Fox & Co. will provide capable speakers for 30-45 minute discussion sessions in four areas:
      1) personnel
      2) advertising
      3) security
      4) merchandising

      Contact Mrs. Servick a few days before speaker desired. Classes may be combined for speakers.

   b) For speaker on wholesaling, contact Mr. Irvin J. Miglietta, President, Allied Electric Supply Corp., 417 Church St., telephone 527-6405.

4. For students particularly interested in wholesaling, small groups may take tour of Allied Electric. Contact Mr. Miglietta to arrange.

5. Following a tour or speaker have students list the different jobs they noticed or discussed and analyze each job according to what students think is needed for skill or ability.

6. Students could discuss which jobs they might like and give reasons.

7. Students set up make-believe store using dummy merchandise and go through all steps of:

   a) receiving merchandise
   b) pricing merchandise
   c) arranging displays
   d) advertising
   e) selling to customer
   f) ringing up sale
   g) making change

   (Ed. note: Dummy merchandise requested, but not yet received. 1/24/72)

8. With supermarkets and discount stores employing large numbers of young people as cashiers, have students practice making change correctly, using play money.

   a) name the amount of the sale
   b) name the amount tendered
   c) leave amount tendered on register ledge
   d) pick up change from register starting with smallest coin and going to largest coin or bill
   e) put amount tendered in register
   f) count back to customer naming amount of sale and adding on coins until amount tendered is reached
   g) thank customer and tell her to come again

OBJECTIVE: The student will know where he can get training for distributive occupations.

SUGGESTED TEACHING-LEARNING ACTIVITIES:

1. Field trip to high school to visit Distributive Education class if possible, speak with the D.E. coordinator, and visit the school store.

2. Students could question the coordinator about prerequisites, training provided, future schooling, future in occupation.

3. Review with student on-the-job training provided by stores and wholesaling businesses.

4. Discuss marketing courses given at Greater Hartford Community College and Manchester Community College as well as other institutions.

OBJECTIVE: The student will be able to evaluate himself with regard to possible success in distributive occupations.

SUGGESTED TEACHING-LEARNING ACTIVITIES:

1. Students working in groups or class as a whole make a list of personality and character traits valuable or desirous in a distributive worker.

2. Each student rate himself on these qualities on a 1 to 3 scale: 1 for high, 2 for medium or average, 3 for low.

3. Each student put a check mark before any trait in which he thinks he can improve by working at it.

4. Discuss with the class various ways that students could use to improve in the areas they would like to.

OBJECTIVE: The student will determine what growth he has made in understanding distributive occupations.

SUGGESTED TEACHING-LEARNING ACTIVITIES:

1. The student should be given the same inventory test he was given at the start of this unit.

2. The student can measure his learning by comparing the results of the two tests.

3. Discuss results individually with each student.

EXPLORING MANUFACTURING AND ALLIED MECHANICAL OCCUPATIONS

This unit is designed to give students on the 7th & 8th grade level an opportunity to explore manufacturing occupations both for the purpose of self-appraisal in relation to this type of work and to become acquainted with what people in these occupations accomplish, what it is like to work at them and what preparation is required to enter them. It is hoped that at the completion of this unit students will understand better the services that persons in these occupations contribute to others.

INSTRUCTIONAL GOALS

To help students become acquainted with occupations in the field of manufacturing and allied mechanical skills. In doing this students should:

1. Be able to name and generally describe several occupations in the field of manufacturing and allied mechanical skills.
2. Understand and be able to demonstrate how manufacturing fits into our economic system.
3. Be able to name several manufacturing plants in the greater Hartford area and describe what they manufacture.
4. Describe the education, training requirements and entry level skill necessary to be employed in these occupations.
5. Identify training in the Hartford area available for those who would choose to enter these fields.

MINIMUM ACCEPTABLE LEVEL OF STUDENT PERFORMANCE

Students should be able to name and generally describe several occupations in the field of manufacturing.

Topical Outline	Suggestions for Teaching-Learning Activities
Unit I	
I. Introduction A. Define manufacturing - It is the processing of raw materials into products. a) Clothing manufacturing - the changing of cloth into garments b) Automobile manufacturing - the changing of raw materials and parts into new cars c) Paper manufacturing - the changing of raw materials such as wood pulp into paper and paper containers or cardboard	Involve students in defining manufacturing Why is manufacturing necessary? What are some of the common characteristics of all manufacturing? How has it changed in the past 100 years? Ask students to give examples of manufactured products.
B. Manufacturing production process a) Usually there are many steps in the changing of new materials into a finished product. b) In most cases each step or series of steps is accomplished by a different machine or worker. c) Even simple manufactured items may take several operations to make the finished product. d) Complicated manufactured items such as an automobile are made up of thousands of parts. Each part might have gone through many specific manufacturing operations. (Use parts provided to show class examples of this technique.) e) Once all parts of the item are produced they must be put together by assemblers.	Use film from Farmington Industrial Park. (20 min.) Use film: The Factory - How a Product is Made (14 min.)

Topical Outline	Suggestions for Teaching-Learning Activities
f) Another important phase of the manufacturing process is the inspection of each item for quality. Inspection must go on at various steps in the production process. Items that do not meet the standards must be scrapped. This inspection process is called quality control.	
C. Manufacturing Organization (See appendix 1) a) Administration-Operations Management, Supervision, Personnel b) Design Product, Process, Equipment c) Materials Natural, Synthetic, Receiving, Waste Output d) Production Processing, Quality control e) Distribution Packaging, Marketing, Advertising, Transportation, Warehousing f) Research Product, Process, Marketing	

Topical Outline	Suggestions for Teaching-Learning Activities
II. Identifying manufacturing plants in the Greater Hartford Area	Manufacturing and allied mechanical occupations furnish employment to a sizable portion of the work force in the greater Hartford Area. Included in these occupations are skilled, semi-skilled and unskilled jobs. List as many manufacturing plants as students can name in the Hartford area. Be sure to include the following: Pratt & Whitney Aircraft Veeder Root Arrow-Hart Royal Typewriter Chandler Evans Colts Firearms Combustion Engineers Dexter Corporation Stanadyne Wiremold Allen Manufacturing List printing and graphic arts plants: Connecticut Printers Hunter Press Inc. Finley Printers Travelers Insurance Print Plant
III. Discuss what these plants produce Pratt & Whintey - aircraft engines Veeder Root Arrow-Hart Royal Typewriter Chandler Evans Colts Firearms Combustion Engineers Dexter Corporation Stanadyne Fuller Brush	Class Discussion: Discuss questions such as the following: Any questions that cannot be answered in class have students investigate and report back to class. What does the Pratt & Whitney Company make? Do they make the whole airplane? What part of the airplane does Pratt & Whitney make? Are all the engines they make alike?

Topical Outline	Suggestions for Teaching-Learning Activities
	Do they make piston engines that turn propellers? Do they make jet engines? How is a propeller driven engine different than a jet engine? What does Royal Typewriter Company make? Do they only make typewriters? Are all the typewriters that Royal makes alike? How are the different parts of the typewriter made? Are they made by hand? Does one man make a whole typewriter? Do men and women work on various parts the typewriter? Are there different kinds of machines to make different kinds of parts? Are some jobs more skilled than others? Who designs the typewriters? When they design a new typewriter can they use the same machines to make them as they did for the older model typewriter? What must they do to the machines to make the new typewriters? Do you think it would take a person with great skill to change the machines so they would turn out the new parts? What would you call a person who designs and makes the changes in the machines?

Topical Outline	Suggestions for Teaching-Learning Activities
	What does Veeder Root make? What are counting machines? Have you ever watched the meters on gasonline pumps indicate the amount of gas being pumped and the cost? Are parking meters counting machines? Can you name other uses for counting machines? Make a video tape and slides of each of the manufacturing plants. 1. In the video tape and slides try to get pictures of several different individuals working at various production or design occupations. 2. Try to have individuals explain what they are doing (What their job is.) 3. Have students be prepared to ask specific questions. 4. Try to get some continuity or flow in the film starting with raw material and ending with a finished product.
1. Distinguish between plants that turn out completed products and those that produce parts and/or operations.	Plants turning out completed products: Pratt & Whitney Aircraft Colts Veeder Root Fuller Brush Chandler Evans Connecticut Spring Corporation Plants producing parts of services: Welding Shops Machine Shops Plating Plants Have students report Discuss in class

Topical Outline	Suggestions for Teaching-Learning Activities
2. Review how the economy affects manufacturing markets. Review how competition from other countries affects manufacturing in the Hartford area. Review how the changing over from war products to peace products affects manufacturing in the Hartford area.	Why are so many people unemployed at the present time? Why did Pratt and Whitney have to lay-off many production and research workers? Does the national defense effort have any effect on Hartford area manufacturers? What manufacturing plants in the Hartford area make war materials?
3. Review the effects of automation and technology	DISCUSS IN CLASS Jobs becoming more specialized--more brain power needed Many former routine jobs are now done by machines that are automated. What do we mean by an automated machine?
4. Job market future	Most unskilled jobs are disappearing. Only jobs that require skill and human reasoning have a bright future in the manufacturing field.
5. New jobs created	Many new jobs in research, planning, designing and programming are developing. All these occupations require much more schooling and training.
6. Most unskilled jobs rapidly disappearing	Why does automation develop new jobs as well as doing away with other jobs?

Topical Outline	Suggestions for Teaching-Learning Activities
IV. Manufacturing jobs in the Hartford area	List on chalkboard as many occupations connected with manufacturing as students can name. Be sure to include: Machine operator Set-up man Machinist Inspector Assembler Draftsman Tool and Die Maker Mechanical engineer Assistant Foreman Foreman
1. What do people do in these occupations? a) Who works in these occupations? b) What is life style of people? c) Who do these people work with? d) What do they accomplish in their jobs?	(See descriptions) List on chalkboard occupations in the printing or graphic arts field
2. How might these occupations be classified? a) Unskilled b) Semi-skilled c) Skilled d) Professional	Familiarize students with sources of occupational information. Dictionary of Occupational Titles Occupational Outlook Handbook Counselors Guide to Manpower Information School library Career Information file
3. What do students want to know about these occupations	List questions students have about occupations. Develop a format for studying these occupations. (See WHAT THE STUDENT MIGHT WANT TO KNOW) Prepare to question resource person who will visit class for Unit 2.

Topical Outline	Suggestions for Teaching-Learning Activities
4. Kinds of abilities needed for each occupation a) Physical abilities 1) Endurance 2) Muscular Coordination 3) Manual Dexterity b) Mental ability 1) Amount 2) Kind (verbal, numerical, spatial, etc.) c) Mechanical ability 1) To make it, fix it, invent, analyze d) Creative ability e) Social ability 1) Getting along with others 2) Organizing f) Scientific ability g) Clerical ability	Films: A Step Ahead (12½ min.) Precision Tool-Making and Machinery (25 min.)

Topical Outline	Suggestions for Teaching-Learning Activities

Unit 2

I. Preparation for visitation to Manufacturing or Printing Plant

1. Visit school shop and identify some of the manufacturing machines such as lathe and milling machines. Visit school print shop and have teacher point out some of the printing equipment.

Have resource persons from manufacturing or printing plants visit class.

2. Students should be prepared to discuss manufacturing or printing occupations with the factory representative. Student Committee should make arrangements with resource person for visit.

The following manufacturing and printing organizations are cooperating with this study:

Organization	Resource Person
Arrow Hart	Mr. Higgins
Colt Firearms	Robert S. Early
Veeder Root	Mr. Luby, Mr. Cunningham
Farmington Industrial Park	Mr. Adrian
Dexter Corp.	Mr. Burton
Chandler Evans	Mr. Gomez, Mr. Graeber
Stanadyne Corp.	Mr. Wood
Travelers Print Shop	Mr. Casey
Allen Manufacturing	Mr. Flanagan
Emhart Corp.	Mr. Beeney
United Aircraft Training Center	Mr. Feuerman

3. Students should choose two occupations they would like to study and report to class on, after visitation to plant.
   a) Emphasize importance of these occupations
   b) Find out approximately how many persons are employed
   c) What is future status of these occupations?
   d) What training is needed to enter?
   e) Do you have to be a high school graduate?
   f) Is there an apprentice program for this occupation?

Resource person should be prepared to discuss specific occupations in his plant. He should be preparing the students for their visit to the plant.

If the resource person could bring some material with him to demonstrate what is done in his plant it would be much more effectice. For example, materials showing various manufacturing operations and an explanation of what machines and what jobs do this, such as a film or filmstrips.

Printing operations should also be demonstrated.

4. Make arrangements for visit to local manufacturing plant or printing plant. Class should be divided in groups of four or five students. One adult should be invited to go

Students should help make arrangements with resource person for class visit to plant.

Resource person should, if at all possible, be the host, when the class or members of the class visit the plant.

Resource person should explain what they will see and prepare the students to get the most out of their visit.

Topical Outline	Suggestions for Teaching-Learning Activities
5. Choosing students for plant visit.	Students wishing to make plant visit should show an interest and only those with a genuine interest in manufacturing or graphic arts should be allowed to make the trip.

Topical Outline	Suggestions for Teaching-Learning Activities
Unit 3	
I. Field trip to manufacturing or printing plants.	Arrange field trip through Project Director's Office, Room 207, Lewis Fox Middle School, 527-1871, Ext. 278. Identify the plant you wish to visit and and the day and the time. Indicate the name of the resource person who visited your class and the plant he represented. Also indicate if you have enough adults (1 per 5 students) going on the trip, and finally, give the number of students you intend to take. Students should be divided into groups before they leave the school. Resource person should know ahead of time the number of youngsters and adults visiting. He should be given an opportunity to plan the plant tour so that students will be given an opportunity to see individuals performing in their occupations Students should get a chance to talk to two or three of the workers observed. Several committees might be used effectively and individual students given personal responsibility for carrying out assignments.

Topical Outline	Suggestions for Teaching-Learning Activities
Unit 4 I. Review of field trip Identify occupations observed Classify occupations according to category or type of work involved.	Make a complete list of jobs seen on field trip. Discuss manufacturing and printing plants visited and what they are engaged in producing. Have student committees report to class on their particular occupations. Give class an opportunity to ask questions of the committee. Have class classify the occupations discussed as: Unskilled Semi-skilled Skilled Have students give their reasons for classification. Show films or listen to tapes made during field trips. Each group will be responsible for making a report to class on their observations.

Topical Outline	Suggestions for Teaching-Learning Activities
Unit 5 I. Preparation for visit to training facility. 1. Education and training required (high school, post high school on-the-job training) A. Where education and training can be acquired 1. Local high school 2. Local technical high school 3. Apprenticeship program 4. On-the-job training	Teachers should go over with the class the training facilities available to them. Guidance counselors will be helpful.
II. Plan visit to training facilities Weaver High School Hartford Public School A.I. Prince Tech. School United Aircraft Training School	Visitations will be arranged by Project Director. Teachers should request a date for visiting HPHS and Prince Tech Manufacturing and Printing areas. A two period block should be scheduled which will include travel time. Members of Prince Tech and HPHS staffs will explain their programs and discuss with students how they might apply for the vocational courses. United Aircraft training facility may be visited. Project Director will make arrangements.

Topical Outline	Suggestions for Teaching-Learning Activities
Unit 6 I. Field trip to training facilities	Arrange field trips to training sites where students can observe training programs. Make arrangements for students to talk to individual trainees and also be given an overview by the institution. Divide students into small groups for training visits but bring them together for their interview with the instructors. Have students prepare specific questions they will ask. Prince Technical School — Mr. English, Mr. Kelly Hartford Public H.S. — Mr. LaBella, Mr. LeConche Weaver High School — Mr. Davis

Topical Outline	Suggestions for Teaching-Learning Activities
Unit 7 I. Review of training facility field trip. Discuss training and identify specific occupations for which the training was aimed.	What vocational courses are taught in the Hartford High Schools? Machine Shop Drafting Graphic Arts Automotive Repair Service Station Operation and Management Appliance Repair What vocational courses are taught at Prince Tech.? Machine Shop Drafting Electronics Electricity Automotive Plumbing Carpentry Heating and Steamfitting Oil Burner Repair Hairdressing and Beauty Culture Barbering Licensed Practical Nursing What occupational courses are taught at Aircraft Training School
Unit 8 I. Post Inventory and Evaluation	

WHAT THE STUDENT MIGHT WANT TO KNOW

(Resource person available to individual teachers on request)

1. History of the occupation

2. Importance of the occupation and its relation to society.

3. Duties
   - A. Definition of occupation
   - B. Nature of the work

4. Number of workers engaged in occupations

5. Qualifications
   - A. Age
   - B. Sex
   - C. Special physical, mental, social, and personal qualifications including those obviously necessary for services in all types of work
   - D. Special skills essential for performance on the job
   - E. Special tools or equipment essential for the performance
   - F. Selection
   - G. Legislation affecting occupation

6. Preparation
   - A. General education
   - B. Special training, including probably cost of training
   - C. Experience

7. Methods of entering
   - A. Public employment service
   - B. Special employment agencies
   - C. Civil Service examinations
   - D. Apprenticeship
   - E. License, certificate, etc.
   - F. Other methods and channels

8. Time required to attain skill
   - A. Special apprenticeship or union regulations
   - B. Length of period of instruction on the job
   - C. Length of time before median and maximum rates of pay are reached

9. Advancement
   - A. Lines of promotion: jobs from which and to which workers may be promoted.
   - B. Opportunity for advancement

10. Related Occupations
    A. Occupations to which job may lead.
    B. Occupations from which one may transfer

11. Earnings
    A. Beginning wage range
    B. Wage range in which largest number of workers is found
    C. Maximum wage received by most highly skilled
    D. Median and average salary, if available, and difference for sex and age groups
    E. Annual versus life earnings
    F. Regulations
    G. Benefits
    H. Rewards and satisfaction other than monetary

12. Conditions of work
    A. Hours
    B. Regularity of Employment
    C. Health and accident hazards

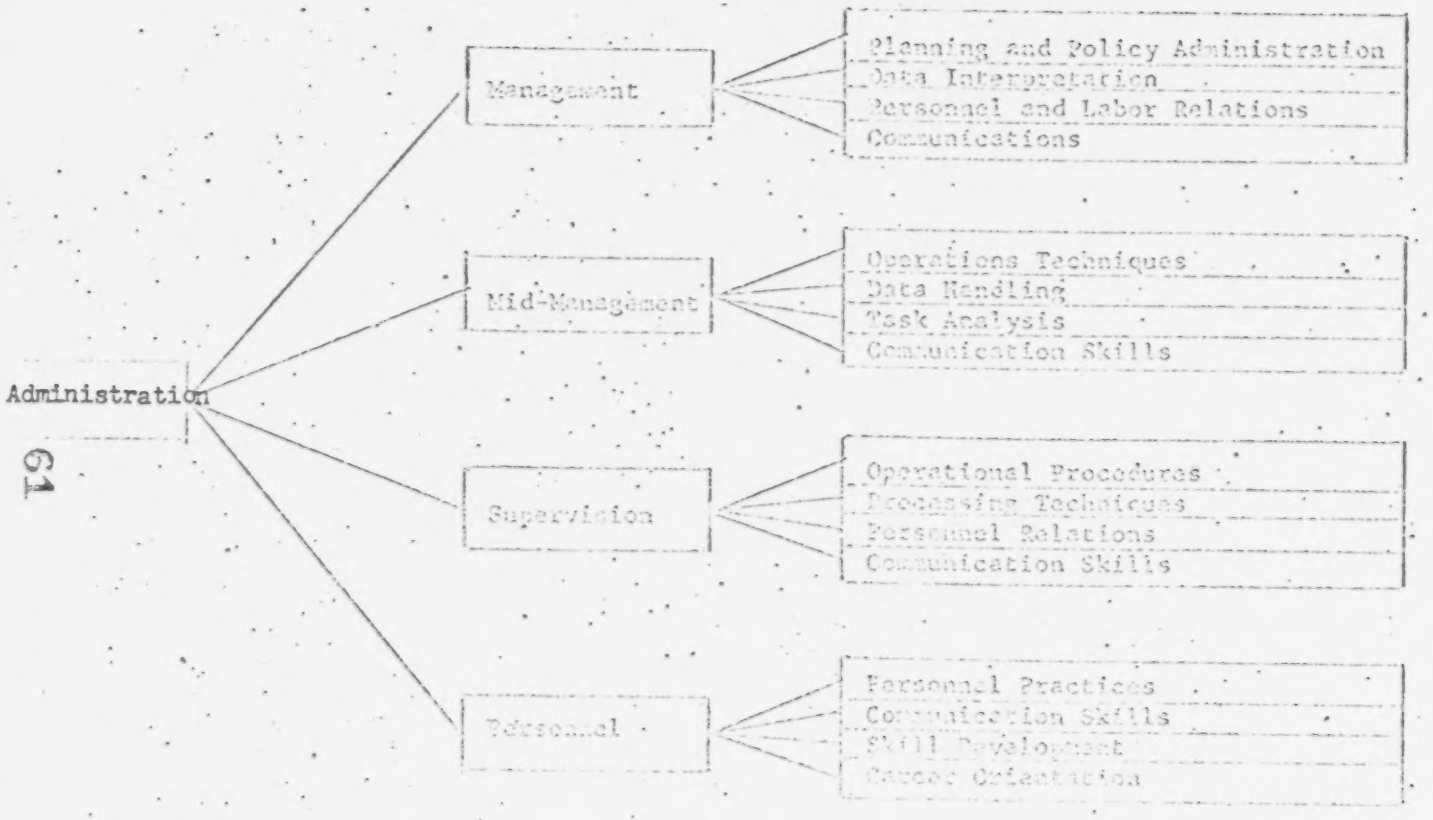
13. Organizations
    A. Employers
    B. Employees

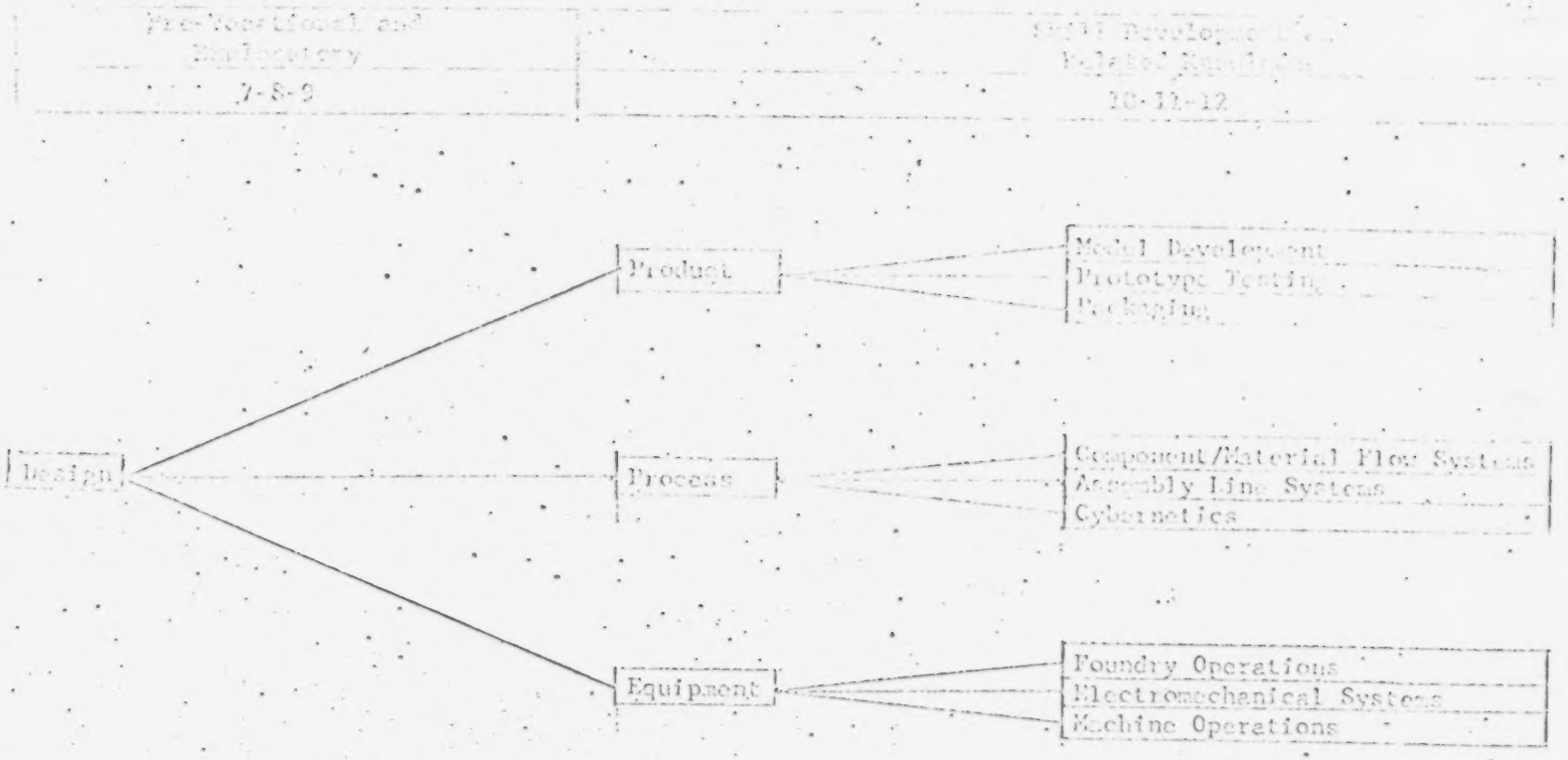
14. Typical places of employment

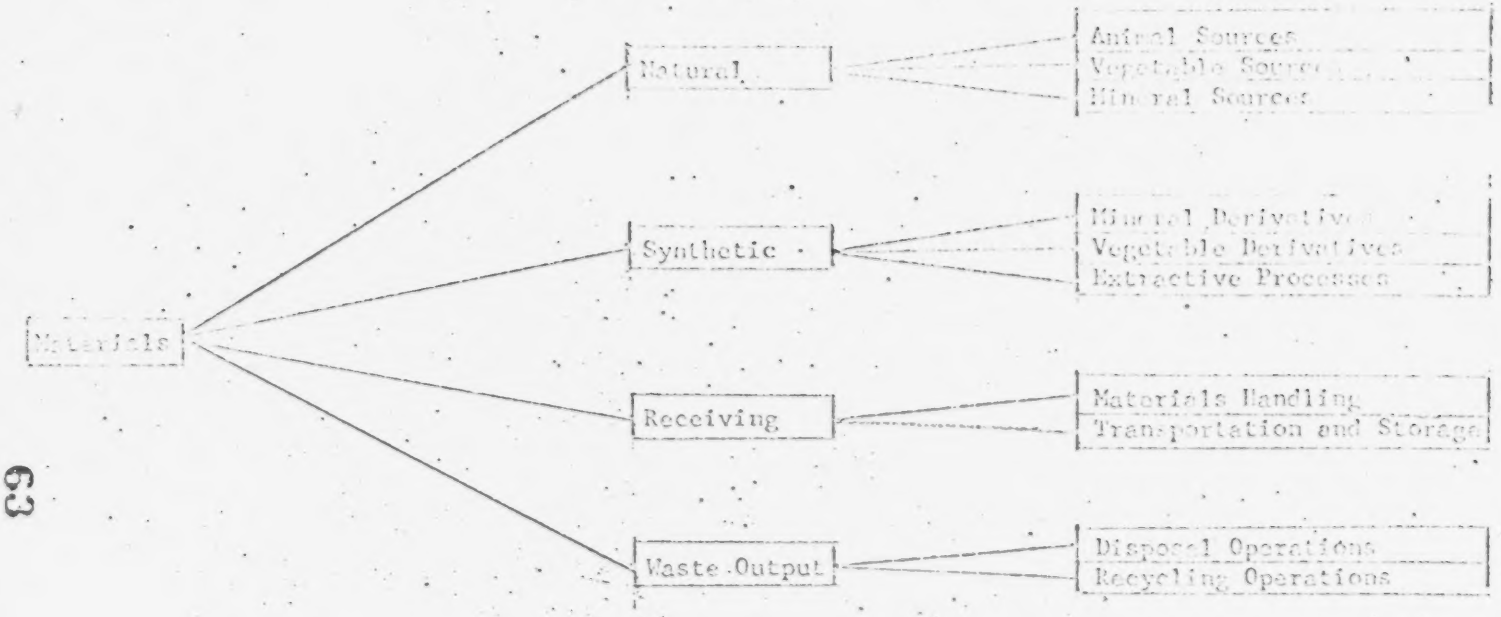
15. Advantages and disadvantages not otherwise enumerated

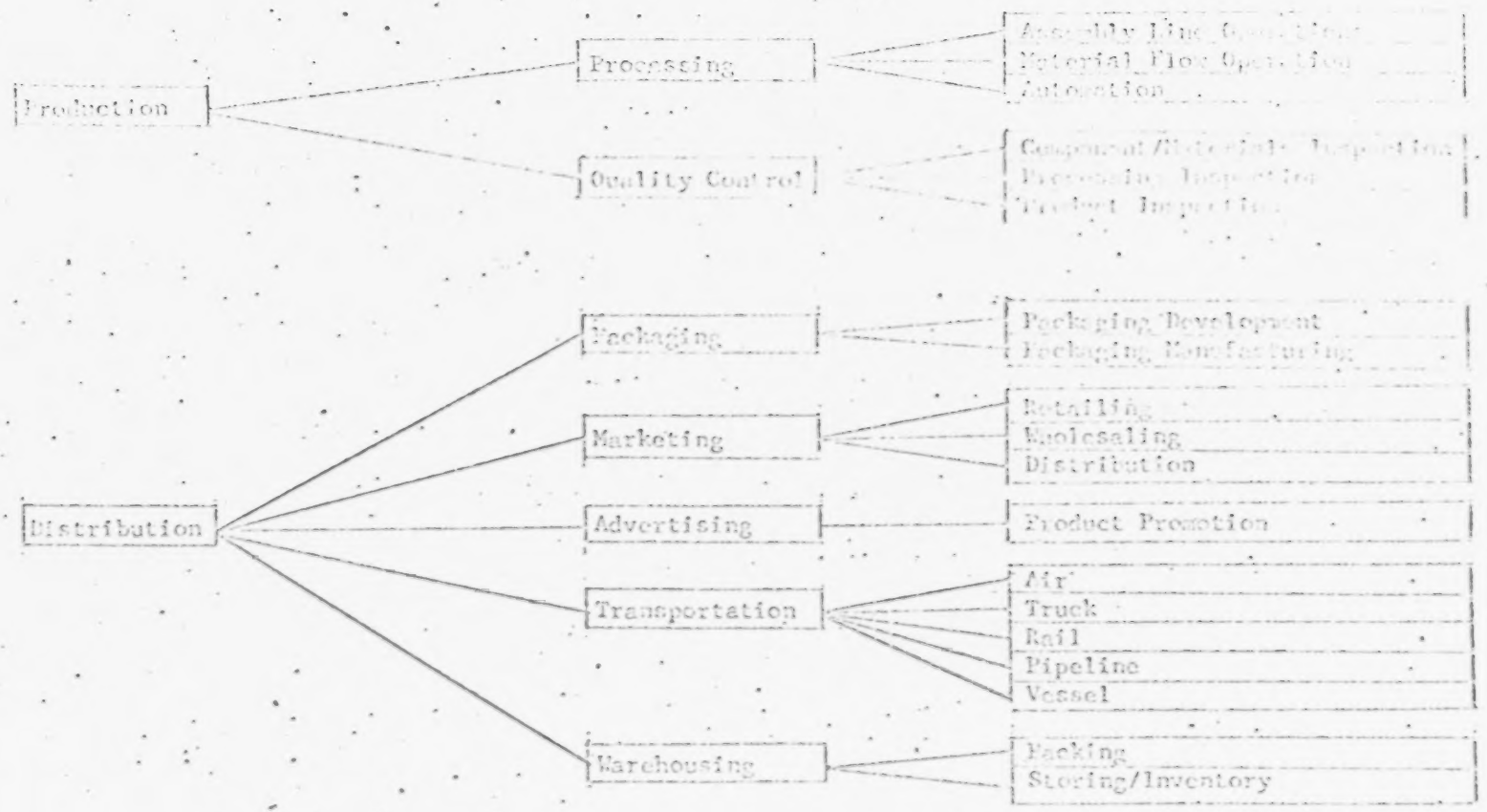
16. Supplementary information
    A. Suggested readings: books, pamphlets
    B. Trade and professional journals
    C. Other sources of information
    D. Lists of associations, firms or individuals who may provide further information

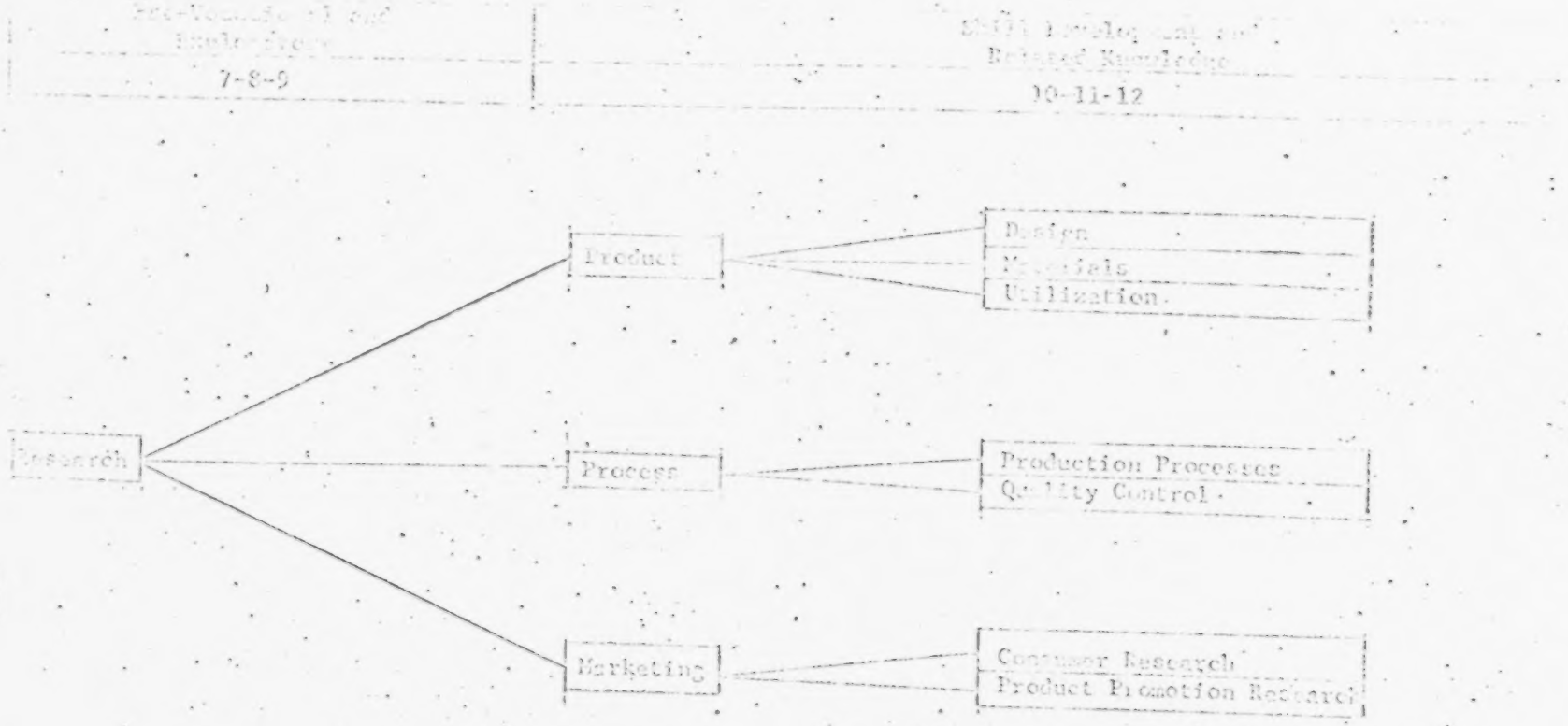
Professional and Preparatory	Skill Development and Related Knowledge
7-8-9	10-11-12




Pre-Vocational and Exploratory
7-8-9
10-11-12
Design
Product
Process
Equipment
Model Development
Prototype Testing
Packaging
Component/Material Flow Systems
Assembly Line Systems
Cybernetics
Foundry Operations
Electromechanical Systems
Machine Operations

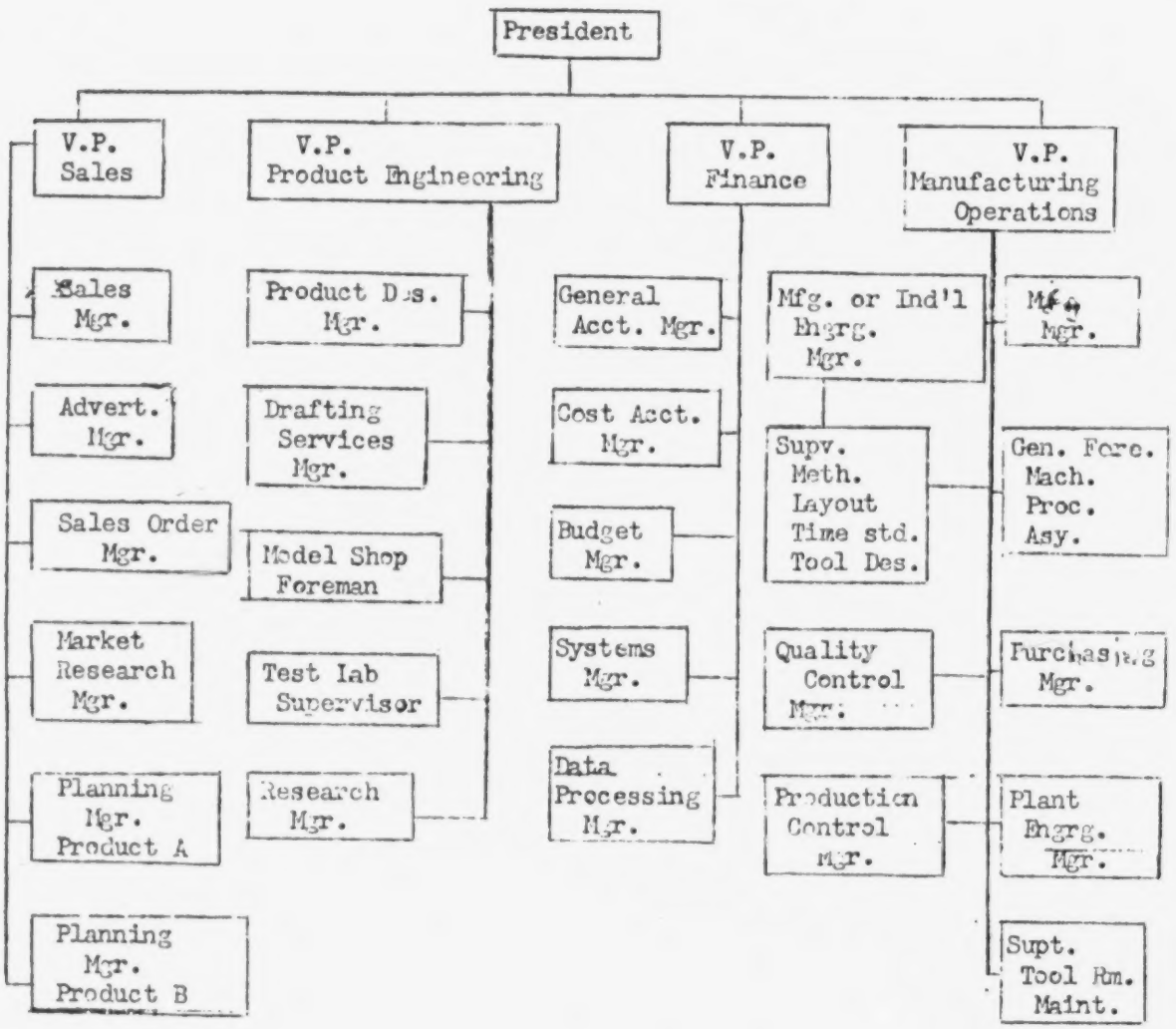

Materials
Natural
Synthetic
Receiving
Waste Output
Animal Sources
Vegetable Sources
Mineral Sources
Mineral Derivatives
Vegetable Derivatives
Extractive Processes
Materials Handling
Transportation and Storage
Disposal Operations
Recycling Operations


Production
Processing
Assembly Line Operation
Material Flow Operation
Automation
Quality Control
Component/Materials Inspection
Processing Inspection
Product Inspection
Distribution
Packaging
Packaging Development
Packaging Manufacturing
Marketing
Retailing
Wholesaling
Distribution
Advertising
Product Promotion
Transportation
Air
Truck
Rail
Pipeline
Vessel
Warehousing
Packing
Storing/Inventory


7-8-9
10-11-12
Product
Design
Materials
Utilization
Research
Process
Production Processes
Quality Control
Marketing
Consumer Research
Product Promotion Research

SMALL COMPANY - TWO PARTNERS

LARGE COMPANY ORGANIZATION



ORGANIZATION OF A MANUFACTURING COMPANY

1. Small company starting out needs:
   A. Money - to buy equipment, materials, etc., which must be paid for before money comes in from customers. The owners of the business may have enough money to cover this, but often have to borrow at least part of it from a bank. The money needs of a business come under the heading of Finance.

   B. Customers - to keep the money coming in. They can be the kind of customers who want someone to manufacture to their own design. Getting customers and knowing what they want comes under the heading of Sales.

   C. Products - to satisfy customers. Making the company's products comes under the heading of Manufacturing.

2. Some small manufacturing companies start out with one person who does everything described above, or two people may start out as partners. With two people, one partner may be the "outside" man who handles sales. The other may be the "inside" man who handles manufacturing.

3. If the company does well and grows, more people will be needed to make its products. When this happens, the added people usually will be hired for their special abilities. The bigger a company becomes, the more specialization it can use.

4. Growth of Manufacturing specialization:
   A. Methods - some people have above average ability to decide the best way to make the company's products. They decide which machines are needed to turn material into finished products. They also decide which operations should be done first, second, and so on. These people may be called manufacturing engineers, process engineers, industrial engineers or methods engineers. This area may be further specialized into:
      1) Work methods
      2) Plant layout
      3) Time standards
      4) Tool design

   B. Manufacturing - this is where the work is done to make the company's products. Some common specialities are:
      1) Machining - cutting and forming metal to the size and shape needed.

a) Machine operation
b) Machine set-up
c) Supervision (assigning work, training, solving problems and getting help from other specialists)

2) Processing - heat treating to change hardness, plating and other chemical finishing
3) Assembly - putting the parts together to make a finished product

C. Purchasing - locating suppliers for the materials needed, making sure they are good suppliers, and buying at low prices

D. Quality Control - checking to see that parts and assemblies are made so they work. Checking the gages used to inspect the parts and assemblies. Reporting trouble spots to manufacturing.

E. Production Control - planning when work has to start, and in what quantities, so products are ready to ship on time. Storing materials to keep them ready for manufacture. Keeping records of these materials so more can be ordered through Purchasing as needed.

F. Toolmaking - making and repairing special holders for parts and assemblies to help make them get made right.

G. Plant and Equipment Repair - keeping the building, plumbing, electricity and machinery in good operating condition.

5. Addition of Product Engineering specialty: many companies design their own products instead of just manufacturing products designed by their customers. New products have to be designed and tried out. Then drawings have to be made so that large quantities can be made all alike:

A. Product Design Engineering - decide what the product should look like and do. Decide how it can operate.
B. Drafting - making careful drawings that fully describe each part and its materials and dimensions (sizes)
C. Model Shop - making one or a few models of the new product for test and correction.
D. Test Lab - putting the models through tests which will show just how the product will work for the companies' customers.
E. Research - finding or inventing materials and processes not yet available.

6. Growth of Sales Specialization

A. Sales - direct contact with customers, explaining, and persuading customers to place orders
B. Advertising - getting customers interested by describing the companies' abilities and performance. Magazines and newspapers likely to be read by people interested in the company's products

and/or the kind of work it can do. Direct mailing to people who may be interested. Television and radio commercials.

C. Sales Order - keeping records of what customers order and when they want it. Checking to see that the orders are filled.

D. Market Research - keeping in touch with customers and what they may want in the future. Locating new groups of customers in different parts of the country or of the world. Finding new uses for company products.

E. Sales Product Planning - concentrating on groups of products to make recommendations about when new products should be made available, what products people are losing interest in, etc.

7. Growth of Finance Specialization

A. Renewal Accounting - keeping records of how money is spent for company operations, who owes the company money, who the company owes money to, taxes to be paid, etc.

B. Cost Accounting - keeping records of product costs to help with pricing, dividing the costs to pinpoint where improvements can be made.

C. Budgeting - reporting estimates of future costs and sales income, reporting actual costs and income and comparing to estimates.

D. Systems - planning ways to operate the business such as record keeping, how to get information to people who need it, how to make use of computers for these purposes.

E. Data Processing - keeping records, preparing reports, calculating payrolls, etc. Scheduling computer work and keeping the information moving.

Some additional manufacturing areas to build questions around:

1. Parts are inspected to make sure they are enough alike to go together in workable assemblies. If the parts have to be partly remade, or fitted, at assembly, the manufacturing cost is higher and less predictable. In addition, normal replacements later on are harder for customers to make.

2. Manufacturing work is scheduled to make sure it is started soon enough to get done in time for delivery. Scheduling also spreads out the work to prevent too much from piling up at one time and place in the shop.

3. Methods are planned in advance to keep work from getting stalled in the shop while someone figures out how to do it.

4. Special tools and fixtures are designed and built to make parts enough alike, to make it easier to hold the parts in the right position for cuts to be taken, and to make general purpose machinery more suitable for doing specific jobs.

5. Training in manufacturing work before looking for a job makes an applicant more useful sooner.

Project WOW

Health Services - A Projected Plan

Arthur Corbeil..... Teacher..... Chairman

Dolores McCallian... Advisor..... Hartford Hospital

David Brady..... Advisor..... Hartford Hospital

Tom Morris..... Advisor..... Hartford Hospital

John Wilmington..... Teacher..... Fox Middle School

Richard Heniz..... Teacher..... Fox Middle School

Robert DePietro..... Teacher..... Fox Middle School

Project WOW - Health Services

General Outline - II

Week of March 27

A. Video-lape presentation. A student will be admitted to the hospital on a regular patient basis. The many kinds of hospital personnel that help this patient will be shown.

Week of April 3rd.

A. Lab-Technician
B. X-ray Technician
C. Surgical Technician
D. Inhalation Therapist
E. Nursing
    1. L.P.N.
    2. R.N.
F. E.K.G.
G. E.E.G.
H. Dietitian

This group will be part of a display at the Fox Middle School, April 3rd, 4th, and 5th. It will be open to the public on Wednesday, April 5th. Children will be able to take part in the tasks performed by the Medical Team.

Week of April 10th

Video-tape experience of a young patient as he goes through the emergency room at Hartford Hospital. The youngster will have an "accident" at the Fox Middle School.

Week of April 17

Field trips to Hartford Hospital. Small groups of students will visit various departments of the Hospital.

Topical Outline (III)	Suggestions for Teaching-Learning Activities
Unit I	
I. Introduction Define Health Service List people who are involved in Health Services	1. Have children discuss the various types of Hospital and Health Service personnel. 2. Display pictures of various Health Service personnel in action. 3. Have children discuss own experiences with Health Services, such as visits to doctor or hospital. 4. Have children discuss the need for Health Services in a Community.
Unit 2	
1. Identify places where people go for health services. A. Hospital 1. Emergency room 2. Out-patient clinic 3. Regular patient B. Doctor's Office C. Visiting Nurse	1. Have children discuss their own experiences with health services. 2. Have children locate hospitals in Hartford with the aid of a map. 3. Have children summarize the purpose of the various places where they go for help.
Unit 3	
1. Identify some of the various personnel who are engaged in Health Services. A. Lab-Technician B. X-ray Technician C. Surgical Technician D. Inhalation Therapist E. Nursing	1. Discuss the kinds of abilities for each group. A. Physical Abilities 1. Endurance 2. Muscular Co-ordination 3. Manual Dexterity

Topical Outline	Suggestions for Teaching-Learning Activities
1. L.P.N. 2. R.N. F. E.E.G. G. E.K.G. H. Dietician I. Doctor	B. Mental Ability 1. Kind (verbal, numerical, spatial) C. Social Ability 1. Getting along with others 2. Organizing D. What the student might want to know (See attached sheet)
Unit 4	
1. Field trip to Hospital	1. Arrange field trip by specific areas of interest of students. Have students prepare specific questions to ask on trip.
2. Review of field trip to Hospital	2. Review answers to questions that were given at the Hospital.

EXPLORING OFFICE OCCUPATIONS

This unit is designed to give all students an opportunity to explore office occupations both for the purpose of self-appraisal in relation to this type of work and to understand better the services that persons in these occupations contribute to society.

INSTRUCTIONAL GOALS

1. To help students become acquainted with a wide range of occupations which might be classified as office occupations
2. To orient the student with the requirements necessary to enter the field of office occupations.
3. To orient the student with the means to enter the field of office occupations. (Education, training, etc.)
4. To orient the student with the benefits derived from the field of office occupations such as salary, fringe benefits and personal satisfaction.

MINIMUM ACCEPTABLE LEVEL OF STUDENT PERFORMANCE

Students should be able to name and genarally describe several office occupations.

COMMITTEE

Brenda Anderson, Chairman	Lewis Fox Middle School
James Butler	Connecticut Savings & Loan
Wayne Casey	Travelers Insurance Company
Peter Gustavson	Connecticut Mutual Life
David Rogers	Society for Savings
Louise Rosenberg	Lewis Fox Middle School
William Snead	Aetna Life & Casualty
Dorothy Wheeler	Lewis Fox Middle School

OUTLINE

I. Definition of Office Occupations

- A. Clerical Office Occupations
- B. Managerial Office Occupations

II. Locations of offices that employ many people in office occupations

- A. Major Insurance Companies
- B. Major Banks
- C. Public Agencies
- D. Other

III. Schedule for visitations to various companies

IV. Model Tour of an Insurance Company

V. Exhibit in the Reading Resource Center

- A. Banking
- B. Insurance
- C. Getting a job

VI. Supplementary materials available to assist in the instruction of office occupations

- A. Films
- B. Reading Material
- C. Sound filmstrips

VII. Pre-test and Post-test

VIII. What the Student Might Want to Know

A Business office is a control center - the brain - for everything that goes on in a business.

The men who run a business, making important decisions about that business are employed in Managerial Office Occupations.

The people that supply the facts and figures and assist in running that Business office are employed in Clerical Office Occupations.

CLERICAL OFFICE OCCUPATIONS

Stenographer - a person skilled or employed in writing shorthand and taking dictation. Shorthand is a quick method to write using symbols for words.

Secretary - A person that assists her boss in carrying out his work. A secretary types, takes dictation, transcribes, uses the phone and handles the mail and takes appointments.

Typist - A person employed to complete office jobs by using the typewriter.

File Clerk - A person that collects papers to be filed, files papers in proper places and takes paper out of the file when they are needed.

Office Machines Operator - A person who spends his time operating office machines such as the adding machine, billing machine, key punch machine and copying and duplicating machine.

Shipping and Receiving Clerk - persons that make sure goods are shipped (go out) and are received (come in) in good shape. They pack, wrap, address shipments and keep records in what comes in and goes out.

Postal Clerk - A person that sorts mail, prints postage on letters and packages to be mailed out and directs in-coming mail to the proper destination.

Telephone Operator - A person that answers the phone, takes messages or transfers the call to the desired person.

Bookkeeper - A person who keeps track of a company's money by keeping a set of written records.

Cashier - A person in a business concern who is responsible for the money that comes in and the money that is paid out.

Keypunch Operator - A person that prepares information for computer use by coding this information on cards.

Electronic Computer Operator - A person who operates a computer (an electronic brain) according to the directions for each specific problem.

Unit Record Equipment Operator - A person that operates business machines such as a key punch machine, a sorter, a collator, a card reader and an accounting machine.

Receptionist - A person who greets callers, giving them information and directing them to the right person in the office.

MANAGERIAL OFFICE OCCUPATIONS

Branch manager - Is the head of all banking operations in any one particular bank, making sure that all customers are served well.

Branch administrator - Is the person in charge of all the people that work at a particular bank and also in charge of all the money in that bank.

Loan processor - Is the person that reviews, accepts or rejects people that want to borrow money from the bank.

A Savings teller - Is the person that works in a bank and serves customers by receiving any money they might want to deposit and giving them their money when they wish to withdraw it.

Underwriter - Is the person that decides if the insurance company should insure a particular person or not and for how much.

Claims Representative - If an accident or death occurs the claims representative must investigate the case and decide if the insurance company will pay and how much it will pay.

Programmer - Is the person who writes the instructions for the computer (brain) so that it will work.

Actuary - Is the person who decides how much the company will charge to insure their customers, and what new ways it can insure customers.

ORGANIZATIONS IN THE HARTFORD AREA THAT EMPLOY MANY INDIVIDUALS IN OFFICE OCCUPATIONS

A. Major Insurance Companies

1. Travelers
2. Aetna Life and Casualty
3. Connecticut General
4. Connecticut Mutual Life

B. Major Banks

1. Connecticut Bank and Trust
2. Hartford National Bank
3. Society for Savings
4. Connecticut Savings and Loan

C. Public Agencies

1. Better Business Bureau
2. Capital Region Education Council
3. Community Renewal Team of Greater Hartford
4. Connecticut Civil Liberties Union
5. Career Opportunities Program
6. Ebony Businessmen's League
7. Greater Hartford Chamber of Commerce
8. Greater Hartford Community Council
9. Greater Hartford Community Development Corp.
10. Greater Hartford Labor Council
11. Greater Process, Inc.

D. IBM

Small groups of students from the Fox Middle School will visit the various companies in the area during the month of May. The trips will be from approximately 9:30 a.m. until 11:00 a.m. unless otherwise specified to the following companies:

Travelers

Aetna Life and Casualty

Connecticut Mutual Life

Connecticut General

IBM

CBT

Society for Savings

Connecticut Savings and Loan

Combustion Engineering

TENTATIVE MODEL TOUR OF AN INSURANCE COMPANY

A. Introduction

1. Explain concept of Insurance
2. Explain size of company
   a. Employees
   b. Assets
   c. Nature of accounts

B. Vault (10 minutes)

1. Explain what the vault contains and why an Insurance company must invest.
2. Explain physical structure of doors, locks, timers and security

C. Printing (boys) (15 min.)

1. Trace paper from rough un-cut stage to finished printed document (Cutting, Die setting, actual printing)
2. Demonstrate different machines and explain capacities

D. Transcribing (girls) (15 min.)

1. Explain process of dictating by phone and the process of transcribing to letter form.
2. Let students experience how machine works

E. Mailing (5 minutes)

1. Addressograph - Explain use of machine
2. Explain and let students see machine that stuffs and seals envelopes

F. Keypunch (10 minutes)

1. Briefly explain code. Let student have IBM card to encode name and then have operator punch a demonstration card. Let each student have a sample IBM card.

G. Computer Terminal (5 min.)

1. Ask computer a question by typing it out on terminal. Let students have printout sheet to bring back to class. (Long, involved answer - table of rates)

H. Programming (Flowchart) (15 min.)

1. Let student know what programmer does (writes instructions) for computer.
2. Explain concept of flowcharting using a parallel of the tour to chart.

I. Rap Session - Question and Answer period

EXHIBIT: READING RESOURCE CENTER

BANKING

A. A demonstration of a teller's exhibit will be presented to emphasize the importance of Savings and to present a new thrust toward the School Savings program.

B. Video-tape of students interviewing persons that work in offices in the bank.

C. Demonstration of machines that are found in an office - 15 machines - Adding machines, Desk calculators and typewriters

INSURANCE COMPANIES

A. Demonstration of machines that are found in an office - Adding machines, Desk calculators and typewriters

B. Video-tape of students interviewing persons that work in offices in an insurance company.

GETTING A JOB

A. Video-tape on students applying for a job - Do's and Don'ts

B. Resource person to explain and answer questions pertaining to getting a job.

SUPPLEMENTARY MATERIALS AVAILABLE

FILMS: "Whom Would You Hire: Three Young Women"
"Whom Would You Hire: Three Young Men"

"Introduction to Banking" (Society for Savings)

SOUND FILMSTRIPS

"World of Work" Office Occupations (McGraw Hill)

READING MATERIAL (available on request in WOW office)

10 sets of 4 books pertaining to office occupations with excellent illustrations. "A Career in the Modern Office"

EXPLORING GENERAL SERVICE OCCUPATIONS

Occupational areas covered in this unit:

1. Telephone service occupations
2. Electrical and other utility service occupations
3. Automotive service occupations
4. Hotel and Motel service occupations
5. Construction

Many individuals are entering these fields of work each year. To achieve the goal of a career in a service occupation young people must make educational and other plans early in order to meet educational and other requirements necessary for entry into these occupations. Approximately four weeks should be devoted to this unit.

As a result of the activities and other learning experiences in this unit students should be more appreciative of the contribution persons in these service occupations make to society, and they should be more realistic in their own occupational planning. These outcomes will be accomplished through individual and group activities.

Concepts to be learned:

1. What are service occupations?
2. Which of these occupations offer career opportunities?
3. What kind of work do persons in these occupations perform?
4. What educational and other preparations must be made by persons desiring to enter one of these occupations?
5. Where and under what conditions may this education and training be secured?
6. What are the trends and outlooks on opportunities in this area?
7. How does one evaluate his personal interest in a service occupation career?

Minimum acceptable level of student performance. Students should be able to name and generally describe several occupations in each service field studied. Emphasis should be centered in the number and variety of occupations included in each field as well as employment opportunities.

Topical Outline	Suggestions for Teaching-Learning Activities
I. Introduction to Telephone Service Occupations A. Central Office Staff 1. Administrative and managerial 2. Technical 3. Clerical B. Field Personnel	Help the students to see the difference in the managerial, technical and clerical occupations. Ask for examples of types of differences in these jobs. Try to be specific.
II. Types of occupations A. Telephone operators B. Installers and maintenance C. Linemen D. E.	Check Dictionary of Occupational Titles, Volume II, for definitions of various jobs in the communication field. Select specific occupations in each category to examine more thoroughly with class. Emphasize the relationship of these types of occupations to those already studied in earlier units.

Topical Outline	Suggestions for Teaching-Learning Activities
Preparation for field trip to telephone company installation A. Orienting group to what they will see. B. Films and Filmstrips C. Resource person from phone company	
Field Trip	

Topical Outline	Suggestions for Teaching-Learning Activities
III. Introduction to Electrical Utility Occupations A. Central Office Staff 1. Administrative 2. Technical 3. Clerical B. Field Personnel	Discuss with class the different types of occupations. What do the various people in these occupations do? How much training does each need to do their job? Can an employee advance in each category? Can a worker move from one class of occupation to another, i.e. can a person move from a a clerical position to a technical or administrative position? Where could a person get the training to qualify for each position?
IV. Types of Occupations	Have students check Dictionary of Occupational Titles and Occupational Outlook Handbook, 1972-1973 edition for definitions of various jobs in the field of electrical utilities. What is the employment outlook for the future in these occupations. (These reference books may be found in the WOW office of the Fox School Library.) Discuss with class the positive and negative aspects of various occupations, i.e. working outdoors, climbing, heavy physical exertion, being confined to a desk, technical training, etc.

Topical Outline	Suggestions for Teaching-Learning Activities
V. Class visitation to telephone company installations; electrical company installations	
VI. Review and discuss in class the occupations observed in company visitations.	
VII. Invite member of telephone and electrical companies' staff to school to discuss with class occupations in the communication and electrical fields and to answer class questions.	

Topical Outline	Suggestions for Teaching-Learning Activities
VIII. Introduction to Careers in Building Trades A. What are the Building trades? B. What do they do?	Use Occupational Outlook Handbook and Dictionary of Occupational Titles, Volumes I & II as reference.
	Discuss with class the following statement: This nation's economic strength depends to a great extent on the initiative and ability of its craftsmen. Do you agree? Why? Do the blue collar workers (craftsmen) have as much or more effect on the country than do white collar workers?
	Discuss the attitudes of the students toward skilled blue collar workers.
IX. Types of occupations A. Carpenters B. Electricians C. Painters and paperhangers D. Plumbers and pipefitters E. Operating engineers F. Bricklayers G. Structural metal workers H. Cement masons I. Plasterers J. Roofers	

Topical Outline	Suggestions for Teaching-Learning Activities
X. Where Building Trade Workers are employed	
A. Large contracters-new construction	
B. Small Contractors-new construction	
C. Repair and Renovation Contracters	
D. Self-employed	
E. Special trade contracters	
	Use Sound Filmstrip by Guidance Associates: The Construction Worker (10 minutes)

Topical Outline	Suggestions for Teaching-Learning Activities
XI. Training and Other Qualifications A. Evaluating your individual aptitudes, interests and aspirations B. Industrial Arts in local schools C. State Technical Schools D. Apprenticeship Programs E. Adult and Evening School programs F. Private School Programs G. Work experience opportunities	Use Career Guide (published by Vocational Department of the Hartford Board of Education, available at WOW Office, Fox School
XII. Preparation for Field Trip A. Orientation to what they will see. B. Films and filmstrips C. Resource Person	
XIII. Field Trips	

Topical Outline	Suggestions for Teaching-Learning Activities
XIV. Review and discussion in class of occupations and training opportunities observed on field trips.	

Topical Outline	Suggestions for Teaching-Learning Activities
XV. Introduction to Careers in the Automotive Field.	
A. Service Station 1. Attendent 2. Mechanic 3. Manager 4. Dealer	
B. Repair Garage 1. Automotive Mechanic (general) 2. Automotive Specialist a. Front end specialist b. Transmission specialist c. autobody specialist d. suspension system specialist e. Electrical system specialist	Film: The Motor Mechanic, distributed by Modern Talking Pictures
C. Dealership and Sales A. Administrators B. Salesmen	
XVI. Preparation for Field trip A. Description of what they will see.	
B. Filmstrip	Filmstrip: Gas Station Attendent McGraw Hill Book Co., World of Work Series: Set 1
C. Resource person	

Topical Outline	Suggestions for Teaching-Learning Activities
XVII. Field Trips	Make arrangements with Board of Education operated service stations
A. Gas Station	Texaco Station - Main Street and Tower Avenue Mobil Station - Maple Avenue and Preston St.
B. Garage	Make arrangements to visit Autobody Shop
C. Speciality shop	Make arrangements to visit Transmission shop
D. Dealership	
E. Automotive Training Centers	
XVIII. Resource Center Display and demonstration	

Topical Outline	Suggestions for Teaching-Learning Activities
XIX. Review of field trip and Resource Center demonstrations	
XX. Discussion of Training opportunities	Review the relationship between amount of education and expected lifetime earnings
A. Opportunities in Hartford High schools	Discuss automotive courses offered in Hartford High schools that help to prepare one for Automotive Careers A. Industrial Arts B. Business Education C. Science D. Math E. High school automotive classes F. Board of Education operated training stations G. Work-study opportunities

Topical Outline	Suggestions for Teaching-Learning Activities
B. State Regional Technical Schools	Discuss automotive programs at Prince Tech. A. How does one qualify for this program? B. How and when does a student apply for this program?
C. Programs in other Connecticut State Technical Schools	Goodwin, Chaney, and Ellis Regional Technical Schools Use Career Guide - Published by the Vocational Department, Hartford Board of Education (available at Project WOW Office)

HOTEL - MOTEL SERVICES

Hotel keeping is a broad and complex business that provides career opportunities for persons of almost every age, experience and education. Its primary advantages are interesting work, good chances for advancement, generally excellent working conditions, social contact, security and stability of employment. In most hotel positions there is an absence of assembly-line monotony and the presence of frequent opportunities to meet and serve all segments of the public. Hotel work provides ample opportunity for the incividual to use his initiative and to express his ideas. For those with managerial, executive, and ownership aspirations, the hotel industry ranks high in opportunity among all the nation's businesses. Add to these advantages, the important role played by hotels in the local, state and national scene, and you have the basic reasons for considering a hotel career.

Topical Outline	Suggestions for Teaching-Learning Activities
I. Introduction to Hotel-Motel Service Occupations	
A. Supervisory, Executive or Managerial positions	Help the student see that the supervisory executive or managerial positions, require the greatest amount of experience, training and education.
B. Entry Jobs	Help the student see that these jobs require no previous experience or specialized preparation These jobs can lead to higher positions within the industry.
C. Skilled	Help the student to see that these jobs require experience or specialized training.
II. Types of occupations	
A. Supervisory, Executive or Managerial positions 1. Front Office Manager 2. Controller 3. Executive Housekeeper 4. Credit Manager 5. Convention Manager 6. Auditor 7. Chef 8. Chef Engineer 9. Catering Manager	Filmstrips available. Get magazines and brochures that display the various occupations.

Topical Outline	Suggestions for Teaching-Learning Activities
10. Steward 11. Food and Beverage Manager 12. Sales Manager 13. Resident Manager 14. Personnel Director 15. Banquet Manager	Create a hypothetical situation. Give the students an empty building in which they are to start a hotel. Realize that the students will have just enough money to get the hotel started. Then have the students write how they would begin to set-up their hotel in downtown Hartford.
B. Entry Jobs 1. Front of the House 2. Food and Beverage Service 3. Secretarial 4. Accounting 5. Food Preparation 6. Engineering 7. Laundry	
C. Skilled 1. Secretary 2. Accounting Clerk 3. Bookkeeper 4. Assistant Housekeeper 5. Plumber 6. Accountant 7. Room Clerk 8. Reservation Clerk 9. Floor Housekeeper 10. Baker 11. Waiter 12. Hostess 13. Headwaiter 14. Night Auditor 15. Fry Cook 16. Vegetable Cook 17. Bartender 18. Electrician 19. Oiler 20. Kitchen Steward	

Topical Outline	Suggestions for Teaching-Learning Activities
21. Sales Representative 22. Wine Steward 23. Carpenter 24. Receiving Clerk 25. Painter 26. Telephone Operator	
III. Preparation for Field Trips	Orient students to the division of labor that is so prevalent in the operation of a hotel.
A. Orienting group to what they will see by a presentation from a hotel representative	
B. Films and Filmstrips	
C. Follow-up presentation after the trips	
IV. Field trip	

APPENDIX

Counseling Materials

INTEREST AND CAREER INFORMATION

Here is a list of things you might like, or might not like to do when you are older. At the right, you will see that there are four columns. Please read each sentence and then make a check mark (✓) in one of the columns to show how you feel about them.

If you check "not sure", that means that you are not sure whether you like or dislike that activity. In other words, you can't make up your mind. If you make a check mark in the last column, it will mean you do not understand the sentence.

	Like	Dislike	Not Sure	Don't Understand
1. Figure out the taxes people owe the government.				
2. Write or make up the sayings for commercials.				
3. Be the person who talks to and hires people looking for jobs.				
4. Write about a company so people will think better of the company.				
5. Use a desk calculator.				
6. Use computing equipment.				
7. Use machines to add, subtract, multiply and divide.				
8. Keep a record of money made and money spent.				
9. Check bills, like telephone and heating bills for their correctness.				
10. Cash checks and make change for people.				
11. Listen to someone speak and then type the words that were said.				
12. Greet visitors to an office and answer questions for people who call on the phone.				
13. Type letters and important papers.				
14. Be in charge of people who work in an office.				
15. Use a machine to make copies of letters.				
16. Put away papers where they can be easily found later.				
17. Make drawings for commercials on T.V., newspapers, and magazines.				
18. Study what things people buy most.				
19. Harvest and cut trees.				
20. Protect forests from fires, diseases, animals and insects that destroy trees.				

	Like	Dislike	Not Sure	Don't Understand
21. Make plans for building rockets and airplanes.				
22. Make the plans for farm machinery.				
23. Figure out ways of making clay and other minerals into glassware, cement bricks and ceramics.				
24. Make the plans for manufacturing chemicals.				
25. Plan and supervise the building of roads, harbors, airfields, tunnels.				
26. Make plans for manufacturing electrical equipment.				
27. Design and develop engines.				
28. Develop new and improved nuts, vegetables, flowers.				
29. Discover new rocket fuels.				
30. Study about heat, sound and atomic energy.				
31. Plan manufactured goods, such as autos, radios, T.V., refrigerators.				
32. Design the inside of a building.				
33. Work with engineers and scientists in planning and making airplanes, rockets, and guided missiles.				
34. Work with engineers and scientists in planning and making air conditioners and refrigeration.				
35. Do the testing in laboratories.				
36. Promote and develop use and care of a certain product.				
37. Build houses out of wood.				
38. Make furnitures out of wood.				
39. Help make things out of plastic in a factory.				
40. Use rulers and things to measure parts.				

	Like	Dislike	Not Sure	Don't Understand
41. Use tools like hammers, pliers, and screw drivers to put things together.				
42. Cut things out of cloth.				
43. Sew pieces of cloth together.				
44. Work in a factory.				
45. Make things from metal.				
46. Use a big machine that cuts pieces of metal.				
47. Use a machine to cut pieces of wood.				
48. Run a press to make newspapers.				
49. Put pieces of metal together with a torch.				
50. Put together small parts to make things.				
51. Make things out of metal, like boxes.				
52. Wind metal wire to be used in a radio.				
53. Put pieces of metal in a machine to be cut.				
54. Watch a big machine cut and shape things.				
55. Use a machine to polish metal or stone.				
56. Use a machine to cut pieces of paper.				
57. Help improve the goods and services to make things comfortable for families.				
58. Give advice on how to use a stove or sewing machine.				
59. Take pictures of people.				
60. Take pictures of sports events.				
61. Be a paperboy.				
62. Be a milkman.				
63. Sell tickets, like in a movie theater.				
64. Cook fancy meals in a restaurant.				

	Like	Dislike	Not Sure	Don't Understand
65. Cook hamburgers, hot dogs and make sandwiches in a snack bar.				
66. Bake pies, cakes and cookies in a pastry shop.				
67. Keep a place, like a school, clean.				
68. Cut hair for men.				
69. Help ladies with their hair and make-up.				
70. Drive a tractor to make new roads.				
71. Put in wires for new lights.				
72. Paint houses.				
73. Put in new pipes and fix old ones.				
74. Fix watches or cameras.				
75. Look at small parts to see what is wrong.				
76. Work outside fixing telephone wires.				
77. Fix furnaces and put new ones in houses.				
78. Fix machines so that they work again.				
79. Fix car motors.				
80. Paint cars.				
81. Fix dents in cars.				
82. Fix small machines that are used in an office.				
83. Put together wires for radios and T.V.'s.				
84. Mix paints together.				
85. Help keep things clean.				
86. Pile things up in rows.				
87. Visit people when they are sick.				
8. Help handicapped persons get jobs.				
89. Take care of people when they are hurt or sick.				

	Like	Dislike	Not Sure	Don't Understand
90. Take care of animals when they are hurt or sick.				
91. Clean people's teeth.				
92. Make false teeth for people.				
93. Fill cavaties, pull teeth, strengthen teeth.				
94. Plan good looking and good tasting food for people in the hospital.				
95. Be in charge of a hospital (like a principal of a school).				
96. Take care of the records in a hospital.				
97. Make the tests (on people's blood, water, food and other things), to help doctors find out what is wrong with a person.				
98. Take X-rays (pictures) that doctors need.				
99. Help people use an arm or leg or walk again after an accident.				
100. Examine a person's eyes to see if they need glasses.				
101. Make the medicines people need.				
102. Be a doctor.				
103. Help people correct their speech.				
104. Study plant life.				
105. Study bacteria and molds.				
106. Study animal life.				
107. Study insects to see how they affect people, animals and plants.				
108. Study how food is used by the body.				
109. Study how drugs affect animals and people.				
110. Study the what, how and why about diseases.				
111. Study heredity.				

	Like	Dislike	Not Sure	Don't Understand
112. Study the chemicals that are in the ocean.				
113. Discover new vaccines and medicines.				
114. Discover new ways of preserving food.				
115. Study what happens when chemicals enter into or are formed inside animals and humans.				
116. Study behavior of people.				
117. Be a social worker.				
118. Help doctors and nurses.				
119. Take care of old people who are sick.				
120. Spend all your time doing arithmetic.				
121. Help companies make a budget.				
122. Be the person who decides and arranges how things will be delivered from company to company.				
123. Buy supplies for a big company.				
124. Sort and deliver letters.				
125. Keep a record of what supplies are needed.				
126. Sell things in a store.				
127. Put things on shelves in a store and put price tags on them.				
128. Put things that people buy in bags and carry them to cars for the people.				
129. Pump gas, take cash and make change.				
130. Sell clothing.				
131. Be the manager of a store.				
132. Drive a big truck.				
133. Put things in boxes and put them on trucks.				
134. Drive a small truck in a factory.				

	Like	Dislike	Not Sure	Don't Understand
135. Comfort people when there is a death in the family.				
136. Perform weddings.				
137. Help students make and carry out plans for their education and work.				
138. Help adults find jobs that are best for them.				
139. Memorize lines in a play.				
140. Be in the movies or on T.V.				
141. Play a musical instrument in a band.				
142. Play a musical instrument in a symphony orchestra.				
143. Teach other people how to play a musical instrument.				
144. Teach other people how to sing.				
145. Make the maps that are used in schools.				
146. Study cities and help plan new parts.				
147. Study climate, soil, minerals, farm products of a country.				
148. Study and make a record of history of the past.				
149. Study about government--what it is, what it does.				
150. Study groups of people in families, tribes, towns, cities, states and religious groups.				
151. Teach kindergarten children.				
152. Teach children grades 1-6.				
153. Teach a special subject in 7 & 8 grades or high school.				
154. Teach in a college or university.				
155. Help college students find jobs.				

	Like	Dislike	Not Sure	Don't Understand
156. Help people when they have to go to court.				
157. Select and organize collections of books, magazines, etc.				
158. Take care of a library in a school or town.				
159. Take pictures of news events.				
160. Be an instructor in a park or recreation area.				

The Self-Inventory and the Interest and Career information surveys were developed by:

Mr. Myron Cohen, Moylan School (Quirk)
Mrs. Lillian Thomas, Fox Middle School

SELF INVENTORY

(How you feel about yourself)

In the items on the following pages please tell how you feel about yourself. Your answer can be from 1-7 for each question using the scale on the top of the page. Record only one answer on the lines provided after each pair of words.

Only you and the counselor will see and discuss these items. Therefore, please try to answer how you really feel about yourself.

Here is an example:

1	2	3	4	5	6	7
			neither or			
very	somewhat	slightly	don't know	slightly	somewhat	very

Dull .....Exciting 5

This student felt he was a slightly exciting person. If he had answered (3) he would have been saying I'm a slightly dull person.

Now go on and answer all questions. Do not spend a lot of time making up your mind.

1	2	3	4	5	6	7
Very	somewhat	slightly	neither or don't know	slightly	somewhat	very

1. Liked		1. Disliked	_____
2. Popular		2. Unpopular	_____
3. Grateful		3. Ungrateful	_____
4. Clean		4. Dirty	_____
5. Graceful		5. Clumsy	_____
6. Beautiful		6. Ugly	_____
7. Cooperative		7. Uncooperative	_____
8. Unsuccessful		8. Successful	_____
9. Unimportant		9. Important	_____
10. Dependable		10. Undependable	_____
11. Truthful		11. Untruthful	_____
12. Wise		12. Foolish	_____
13. Healthy		13. Unhealthy	_____
14. Pleasant		14. Unpleasant	_____
15. Boring		15. Interesting	_____
16. Selfish		16. Unselfish	_____
17. Quarrelsome		17. Agreeable	_____
18. Show-off		18. Shy	_____
19. Careful		19. Careless	_____
20. Dishonest		20. Honest	_____
21. Smart		21. Dumb	_____
22. Strong		22. Weak	_____
23. Chicken		23. Brave	_____

1	2	3	4	5	6	7	
very	somewhat	slightly	neither or don't know	slightly	somewhat	very	
24. Serious							24. Silly
25. Motivated							25. Aimless
26. Organized							26. Disorganized
27. Temper							27. Calm
28. Thinker							28. Non-thinker
29. Cheerful							29. Sad
30. Interesting							30. Uninteresting
31. Powerless							31. Powerful
32. Considerate							32. Inconsiderate
33. Neat							33. Sloppy
34. Self-control							34. No self-control
35. Crowd							35. Loner
36. Leader							36. Follower

The following items pertain to how you see yourself in a work situation.

37. Boss							37. Worker
38. Fast							38. Slow
39. Outside							39. Inside
40. Easy							40. Hard
41. Thinker							41. Doer
42. Noisy							42. Quiet
43. Hands							43. Brain
44. People							44. Things

NAME _____ AGE _____ SEX _____ GROUP _____ DATE OF TEST _____
Print Last First Initial

'EREST AND CAREER INFORMATION INVENTORY GRAPH

'ections:

Listed below are several career areas. Along side each of these career areas are the sentence numbers that correspond with that career area.

Count the number of items you have marked in the "like" column that correspond with the sentences shown in each category. Put the total number of "likes" in the box along side the career area.

Find the number you have placed in the box on the chart to the right in the proper column. Draw a line through this number from one side of the column to the other. Do this for each career area.

With your pencil outline the entire space between the line you have drawn and the bottom of the column.

:. Office Occupations - 1-17, 96, 120, 121, 124, 125.

:. Health - 35, 87-95, 97-103, 108-111, 113, 118, 119.

:. Distribution - 18, 32, 36, 57, 58, 61, 62, 63, 86, 122, 123, 125, 126, 127, 128, 130-134.

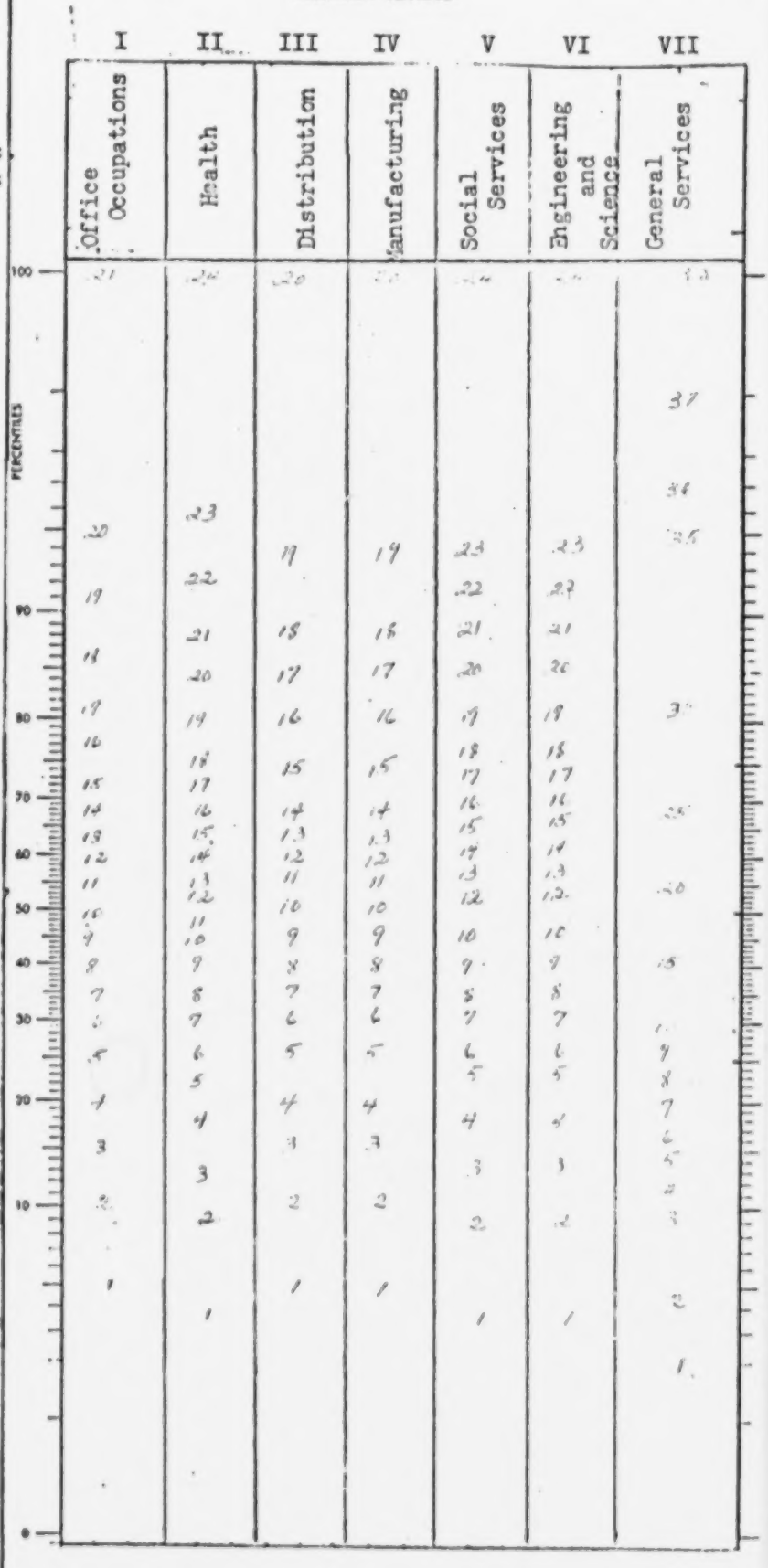
'. Manufacturing - 31, 38, 39, 40, 42-56, 83.

'. Social Services - 3, 8, 116, 117, 135-138, 143-146, 148-158, 160.

:. Engineering and Sciences - 21-31, 33, 34, 35, 104-109, 112, 114, 115, 147.

:. General Services - 19, 20, 37, 41, 52, 58, 59, 60, 64-85, 125, 129 132, 139, 140, 141, 142, 159.

CAREER AREAS



APPENDIX

Sample Decision Making Unit

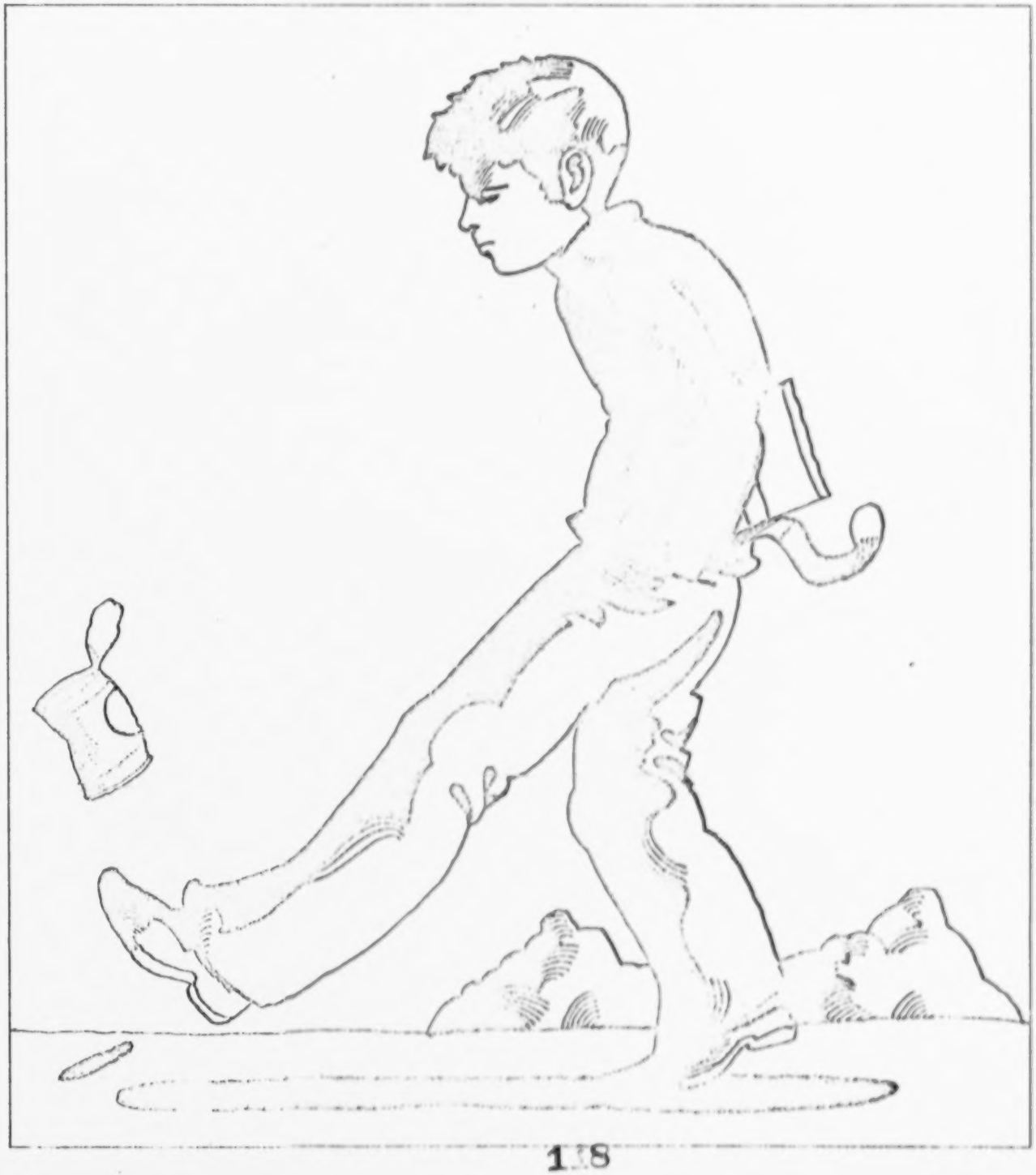
Prescription for the Future: Developing Decision-Making Skills

"There was once a boy named Milo who didn't know what to do with himself—not just sometimes, but always.

"When he was in school he longed to be out, and when he was out he longed to be in. On the way he thought about coming home, and coming home he thought about going. Wherever he was, he wished he were somewhere else, and when he got there he wondered why he'd bothered. Nothing really interested him—least of all the things that should have.

"'It seems to me that almost everything is a waste of time,' he remarked one day as he walked dejectedly home from school. 'I can't see the point in learning to solve useless problems. . . .' And, since no one bothered to explain otherwise, he regarded the process of seeking knowledge as the greatest waste of time of all."

(*The Phantom Tollbooth*, page 9)



Deciding what you want, or what is worthwhile, requires decision-making. Planning for the future with confidence and without fear requires decision-making skills. Consider the following.

There are many students in the 1970s who do not want to plan for the future. These students express fear that there will be no future or there will be nothing good or beautiful in the future. They do not want to waste today. Will tomorrow be as good as today, if no planning goes into it?

There are increasingly more choices to choose from in living a life. Many restrictions have been lifted; more opportunities for occupations have been created; more colleges and schools exist to enter. Whenever there are more choices, the more necessary may be the skill in deciding among them.

There is increased pressure on students to make choices at an earlier age. Making decisions before you are ready, without investigating different possibilities, may lead to unsatisfactory results. How often have you already been asked what you want to do when you are an adult? How many times have you been asked where you are going to college?

As problems of society increase--pollution, overpopulation, race relations, war--more and more decisions are being made for society by a few people. These decisions usually restrict individuals in society. It is easier, perhaps, to leave the decisions to someone else, rather than taking responsibility yourself for contributing to a group decision.

Not wanting to plan, not knowing what you want, deciding too early, or neglecting to participate as a member of society can lead to a reduction of your freedom.

To Decide or Hang Loose: The Question

The alarm goes off, bringing Mike out of dreams to the reality of another school day in April of his eighth grade. Ugh--the day of the math test, course registration day, and his speech in English class. "If I didn't brush my teeth or wash my face, I could have two more minutes in bed," Mike thought. But then he changed his mind, thinking about what he would be doing that day. After cleaning his teeth and face, he walked to the closet to select his shirt for the day. "This one won't make it with the kids in my class; this one won't please my English teacher who is judging my speech; this one won't pass my mother in the kitchen, but this one might please them all." So it went, as he brushed his hair, on the way to the kitchen.

If he didn't take time to eat anything, he would have some extra time to look over his math before his test. But he knew he never thought very well when his stomach was growling, so he grabbed some toast and orange juice before leaving for school.

First period he had his math test. This test would make the difference between a C or a B for this quarter, but he hadn't thought about that too much when he had time to study. Some of the questions were fairly easy. Some, he found, were tricky. Pete, the "brain" of the class, was sitting across the aisle from him, and his paper was exposed. Mike could see Pete's answer to that fourth problem, but looked away and continued working on it himself. Oh, well . . . he'd get the grade he deserved.

During his free period he decided to go to the counselor, instead of meeting with his friends. He had to make up his mind whether he would take shop next year or French. He had to decide by fifth period when he would be handing in his course registration sheet. Shop of the kind he wanted wouldn't be offered in high school, but French 1 would be harder if he waited to take it in the tenth grade, the counselor told him, adding that the decision was up to him. *Ya, gee . . . always up to me!* He already had a heavy academic load for next year, so he thought he would take the shop course.

Thinking that most of his decisions for the day were over, he went to English class, getting into the mood for his speech on drugs and teenagers. He had worked hard on it and had practiced on every member of his family. Then Miss Carroll announced that there was only time for three of the four speeches. She asked who would rather leave his until tomorrow. If Mike did, he would have still more time to practice, but if he didn't, he would worry about it that night. He told Miss Carroll he would like to give it that day.

At noon, some of his buddies wanted him to go to the park with them during lunch. Some others wanted him to play on the softball team. He wanted to do both, but he guessed he wanted to play ball more. He hoped he hadn't made his other friends mad.

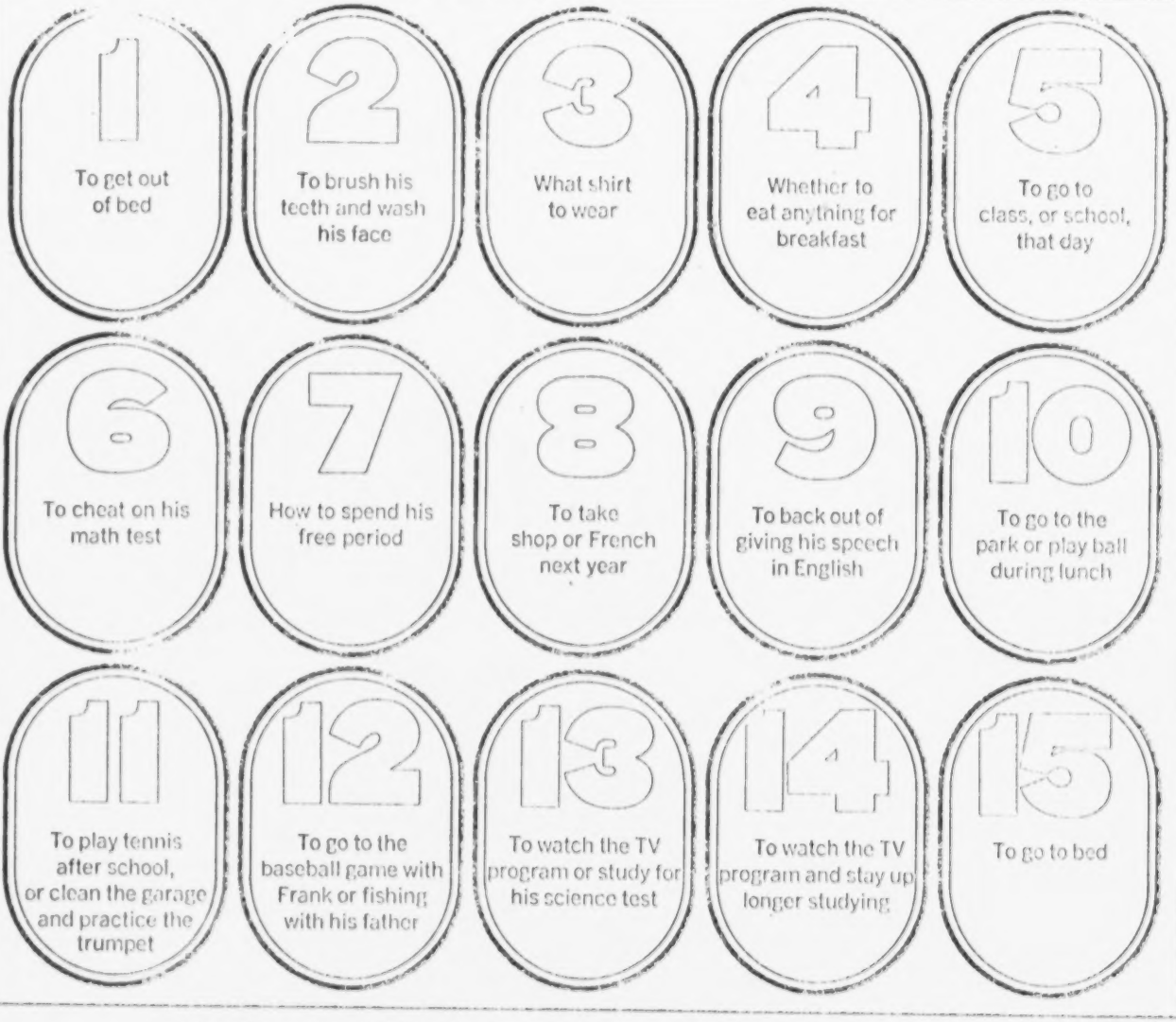
When school was out he knew he had a science quiz the next day, a social studies report due in two days, and an invitation to play tennis with Bob--a great player--after school. He had promised his mother he would clean the garage and practice his trumpet today. So what was he going to do? Which was most important?

After dinner he had a phone call from his friend, Frank, asking him to go to the baseball game Saturday. He had already told his Dad he would go fishing at the cabin. His Dad didn't have many weekends free, but he wasn't always asked to a baseball game either. He told Frank he'd let him know.

Two hours left before bed. His favorite TV program was on, and he had that quiz tomorrow. Could he get by in science without studying for the quiz? What would that do to his grade?

At 11 p.m. he fell into bed, exhausted from all the things he had had to decide during the day. He thought of those waiting for him tomorrow. Life was just one decision after another!

Mike had a busy d.., but probably not too different from those of other eighth grade boys.
Here is a list of the decisions he had to deal with throughout this day in April:


1
To get out of bed
2
To brush his teeth and wash his face
3
What shirt to wear
4
Whether to eat anything for breakfast
5
To go to class, or school, that day
6
To cheat on his math test
7
How to spend his free period
8
To take shop or French next year
9
To back out of giving his speech in English
10
To go to the park or play ball during lunch
11
To play tennis after school, or clean the garage and practice the trumpet
12
To go to the baseball game with Frank or fishing with his father
13
To watch the TV program or study for his science test
14
To watch the TV program and stay up longer studying
15
To go to bed

Were there other decisions that have not been mentioned? Some decisions are made even without consideration on the part of the person making them. Can you add to the list?

From the above list, pick out the five most important decisions you feel Mike made or faces. List them in order of importance, and after each say why you think this was an important or critical decision for him.

Decision	Reason

After you have made your list, compare it with others in the class. From this comparison, see if you and the class can come up with a definition of what makes a dec an important one to a person.

The Story of Missed Critical Decisions

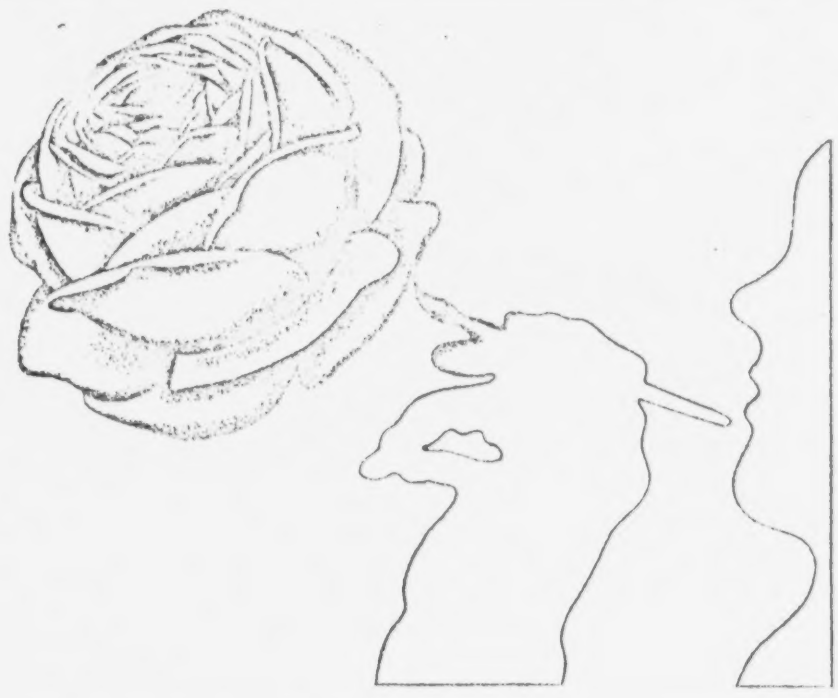
Mary is now 21 years old. She is out of a job, not going to school, and living with her parents. Looking at her ill-fitting cotton dress, sandals, and long, stringy hair, you would not know that she is very bright, creative, and talented. Nor would you know that both her parents are college graduates working at a university. Mary doesn't know what to do, and she does want to do something. She is not a hippie, a drug-user, or a dropout from society. She wants to be part of a future and the world around her.

Mary is a girl who did not graduate from high school; she made straight A's in junior high school and D's and F's in the tenth grade. There was a brief flurry in the junior year when her grades improved. Although frequently absent, she did good work when she was in class. When she stayed home, she read or painted. Her knowledge was great, and her paintings were excellent. But falling behind in her assignments in her senior year, she dropped out when she turned 18 in March of that year.

Her home life was chaotic. There were fights with her parents about grades and going to college. They didn't care what she did socially, or whether she stayed out late. They did care about grades. She was eager to be on her own.

The following September she entered junior college on petition. She left within two months to follow a boy she had met the previous summer. She worked in an office doing filing. She quit this job and worked at the post office until she had earned enough money to quit that job. Then she got an apartment in a nearby city and studied Yoga. Tiring of it, she returned to junior college again, this time to study interior decorating. She hated the routine assignments and quit, even though she was making good grades.

Mary dated sometimes during these years, but never was interested in any of the boys. She was frequently depressed, really wanting to be part of an academic world that would stimulate her. She loved to learn. She wanted to be needed.



Pick out the decisions Mary made that turned out to be important ones for her. List them in rank order of importance and say why you feel they were critical.

Decisions	Why critical

Now, what advice would you give to Mary, if she came to you asking for help?

Values in Decision-Making

The most important step in learning decision-making skills is to understand and clarify your values. Once you have identified your values, you can set goals and objectives and make the decisions that are most satisfying to you.

You will not learn to understand or clarify your values if you do not examine them. You will be asked to do this and to define clearly stated short-term and long-term objectives based on those values. You will also learn to identify the values of groups as they are revealed by adults and by society as a whole.

Values and Choices

A person many times does not know what he values. It often takes thought and experience to know this. A businessman may be making decisions on the basis of what brings in the most money, but he may not realize that money has a high value for him.

Values may change as someone grows older. They may also change because a person or group of people someone values cause him to change his values. For example, a student may change one of his values from getting good grades in school to pleasing his friends.

To have conflicting values often makes choosing hard. A choice means a person cannot satisfy all the values that conflict with each other. He may be unsure of what he values most in a decision. A social worker may value both making a contribution to society and making money. Some of his decisions may force him to choose between these two values.

What someone values tells a great deal about him. Because of this, a person often hesitates to declare his values through a choice. A politician may value personal advancement or personal recognition but may not want to see this in himself.

Although people talk a lot about what they value, the way they act and what they choose are more accurate revelations of their values. As a well-known saying expresses it, "What you do speaks so loudly that I can't hear what you are saying."

What Is a "Good" Decision?

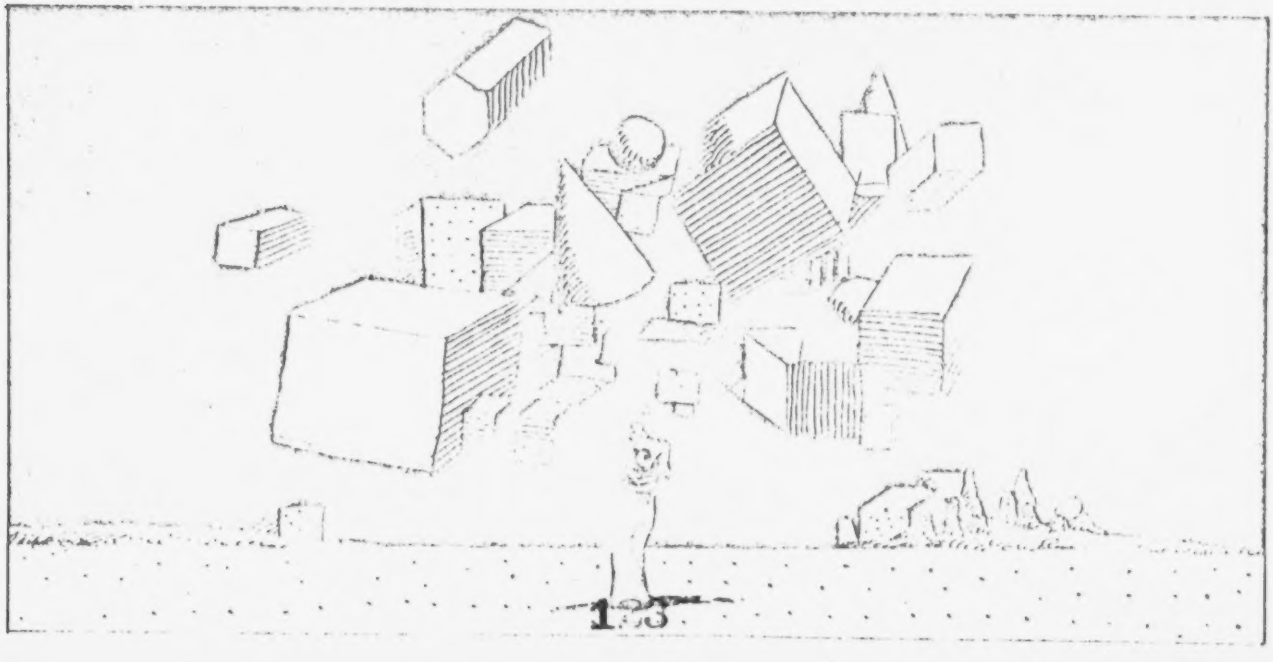
A person usually decides on one course of action in order to bring about the results he desires and to avoid the results he does not want. Therefore, the result of a decision is only "good" or "bad" in terms of the decision-maker's own personal preferences. In order to bring about preferred results consistently, each decision-maker must know what he wants. He must know what he values.

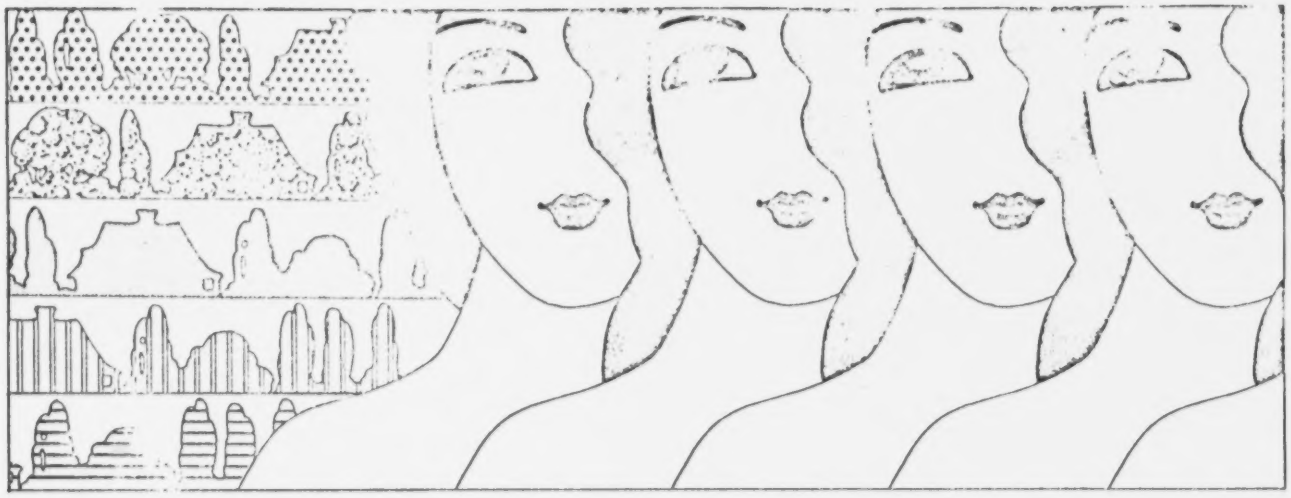
Do you know what you value? Could you make a list of your values now?

What do you think about the following quotation?

"To have one value . . . is to be a machine."*

*Charles A. Reich, *The Greening of America*. New York: Random House, Inc., 1970, p. 91.





Recognizing Personal Values

During the course of Mary's junior year in high school she did a lot of things. She made decisions (some that she thought about, others that she didn't). Mary, at age 16, had certain values. Can you identify them in order of importance based on the following information?

Mary registered for French, English, advanced math, social studies, art, physical education, and government. At the beginning of the year she joined a discussion group with eight friends. This was for the purpose of discussing future goals and behavior.

Mary frequently was absent from school, but was always there the day the discussion group met. When she stayed at home, she was painting, writing, or reading. She read a lot about mystical religions and hallucinogenic drugs. She also read broadly in many of the philosophical books, considered to be classics.

During the evenings she would frequently go to the nearby university to attend lectures or plays. She went with graduate students of the university and would spend time afterwards talking about the plays or lectures.

Mary never dated any boy from her high school. Rather, she went on dates with college students or graduate students. She frequently wore the same dress to school, wore no make-up, and occasionally looked sloppy. She attended no school functions.

She fought with her mother, *talked to her father*, and spent time with her brother. Her mother and father wanted her to go to a prestige university. To do this, she would have to have mostly A's. She was getting C's and D's in several classes. She scored on an IQ test as a gifted child.

From this little information, what would you say were the five things Mary valued most?

Now, write your definition of a value.

APPENDIX

Pre & Post Inventories

DISTRIBUTIVE OCCUPATIONS INVENTORY

DIRECTIONS: In the statements below select the answer which best completes the statement and write the letter on the line provided at the left, before the number.

____ 1. Jobs in distribution involve
   a) passing out all kinds of things
   b) passing out samples
   c) working to get goods to people who will use them

____ 2. A retailer sells to people who buy to
   a) resell the goods
   b) make a profit
   c) use the goods

____ 3. A wholesaler usually sells to
   a) other wholesalers
   b) retailers
   c) people who buy to use the goods

____ 4. To be good in a distribution job, you should
   a) like working alone
   b) enjoy working with people
   c) work well with a partner

____ 5. The earliest place you could get training for a distribution job is in
   a) a community college
   b) high school
   c) store training program

____ 6. Most beginning jobs in distribution require
   a) a high school diploma
   b) good attitudes
   c) a skill of some kind

____ 7. Jobs in distribution are found
   a) mostly in big cities
   b) mostly in the suburbs
   c) wherever you go

____ 8. When making change after a customer has bought something, the cashier should
   a) count the money as she takes it out of the register
   b) count it into the customer's hand
   c) both of the above

____ 9. A cashier should always
   a) state the amount of the sale
   b) state the amount of the bill given in payment
   c) both of the above

____ 10. Some service jobs in distribution are
a) hairdresser, tailor, cleaners
b) dentist, doctor, teacher
c) plumber, electrician, carpenter

____ 11. The main reason that a person opens up a business is to
a) give service to the people
b) feel important
c) make money

____ 12. A good worker in a distributive job
a) works enough to look busy at all times
b) gives a good day's work for a day's pay
c) does whatever the boss tells him

____ 13. As you work in different jobs in distribution you will find that
a) all jobs are more or less the same
b) some jobs provide better opportunities to advance
c) all jobs provide opportunities to advance

____ 14. A good trait to have if you are going to work in a distributive occupation is a
a) love to travel
b) good loud voice
c) sense of humor

____ 15. Distribution workers in our society provide a bridge between
a) sellers and buyers
b) wholesalers and retailers
c) producers and users

____ 16. A department store sells
a) one line of goods at different prices
b) many lines of goods under the same roof
c) many lines of goods at similar prices

____ 17. Because no store can please everyone, the store owner
a) buys what he likes
b) buys what he thinks most people will like
c) buys what he thinks his customers will like

____ 18. When deciding what goods to carry, the location of a store
a) does not need to be considered
b) is the only thing to be considered
c) is one important thing to be considered

____ 19. All jobs in distribution require
a) the same amount of skill
b) the same abilities
c) varying degrees of skill and ability

____ 20. Of all the people working in the United States today
a) 1 out of 4 works in a distributive occupation
b) 1 out of 10 works in a distributive occupation
c) 1 out of 2 works in a distributive occupation

NAME _____ DATE: _____

MANUFACTURING OCCUPATIONS INVENTORY

DIRECTIONS: On the lines to the left of the questions below, write the letter or letters of the answers which best complete the statement.

_____1. In the greater Hartford Area the following are manufactured:

a. Airplanes
b. Automobiles
c. Counting machines
d. Washing machines

_____ 2. Which one of these are made by Hartford Area manufacturers?

a. Bicycles
b. Airplane motors
c. Electrical fixtures
d. Guns

_____ 3. A production job in a manufacturing plant has to do with which of these?

a. Developing new products
b. Doing research
c. Selling products
d. Making products

_____ 4. A milling machine operator is usually connected with:

a. Assembly
b. Production
c. Research
d. Marketing

_____ 5. The person who prepares a machine for an operation is an:

a. Operator
b. Foreman
c. Apprentice
d. Set-up man

_____ 6. The following manufacturing plants are in the Hartford Area:

a. Ford
b. General Electric
c. Pratt & Whitney
d. Columbia

_____ 7. The person training to become a tool and die maker is called a:

a. student
b. apprentice
c. helper
d. assistant

_____ 8. It usually takes how many years to complete training to become a tool and die maker?

a. 2 years
b. 3 years
c. 4 years
d. 5 years

_____ 9. A go and no go gage is used for:

a. Inspection
b. Assembly
c. Management
d. Personnel

_____ 10. A draftsman in a manufacturing plant makes:

a. Check drafts
b. Drawings
c. Machine parts
d. Boxes

_____ 11. Which of the following items add economic value to a product as it goes through the manufacturing process?

a. a machine operator
b. a production machine
c. a product quality inspector
d. all of the above

_____ 12. Which of the following items must a manufacturer have before he can begin making a product?

a. finished product
b. raw materials
c. salesman
d. advertisement

_____ 13. Which one of the following manufacturing jobs would you not be likely to find in the Hartford area?

a. Firearms assembler
b. milling machine operator
c. set-up man
d. automobile assembler

_____ 14. Training for manufacturing jobs may be obtained at which of the following places in Hartford?

a. A.I. Prince Technical School
b. United Air Craft Training Center
c. Hartford Public High School
d. All of the above

_____ 15. The training program at A. I. Prince Technical School lasts for

a. 6 months
b. 2 years
c. 3 years
d. 4 years

_____ 16. To become a set-up man requires which of the following?

a. 4 years of college
b. Experience as a machine operator
c. a Technical School diploma
d. a High School diploma

_____ 17. Which of the jobs below would you most likely not find in the production area of manufacturing?

a. lathe operator
b. milling machine operator
c. set-up man
d. bookkeeper

_____ 18. To work in a manufacturing plant one must be able to:

a. read blueprints
b. shoot straight
c. type
d. do physical labor

_____ 19. A manufacturer is a man who:

a. makes goods with the use of machinery
b. who sells goods in a store
c. who advertises goods on the radio
d. who consumes goods at home

_____ 20. Which one of the following machines is not used in manufacturing production?

a. milling machine
b. computors
c. typewriter
d. grinding machine

____ 21. To become a mechanical engineer, it is necessary that I

a. attend 4 years of college
b. complete an apprenticeship program
c. attend 4 years of technical school
d. obtain a high school diploma

____ 22. Which of the jobs listed below is most likely to decrease in number in the future?

a. unskilled jobs
b. semi-skilled jobs
c. highly skilled jobs
d. programming jobs

____ 23. Automation means:

a. jobs done by hand
b. jobs done by machines without human operators
c. jobs done by machines with human operators
d. jobs done by highly skilled workers

____ 24. Automation results in:

a. elimination of all jobs
b. elimination of some jobs, development of new jobs
c. development of new jobs only
d. more unskilled jobs

____ 25. I would be interested in obtaining a manufacturing job after completing school...

a. Very interested
b. somewhat interested
c. slightly interested
d. not interested
e. don't know

HEALTH SERVICES INVENTORY

____1. To become a Medical Technologist requires:

a. on-the-job training
b. college degree and clinical experience
c. high school diploma
d. personal experience

____2. The laboratory field which must isolate, identify and treat germs is:

a. blood bank
b. bacteriology
c. chemistry
d. orthopedic

____3. When giving a patient a blood transfusion, it is important that the donor's blood be compatible with the patient's blood. If they are not, the following complication can occur:

a. nosebleed
b. vomiting
c. death
d. deafness

____4. In hematology, the study of blood, we find that a normal adult blood count will show:

a. more red cells than white cells
b. more white cells than red cells
c. equal amounts of red and white blood cells
d. red cells consuming the white cells

____5. To become a doctor, you must complete:

a. high school, college, medical school, internship, residency
b. 2 years of specialized training
c. internship
d. on-the-job training

____6. A doctor who specializes in pediatrics works with:

a. animals
b. children
c. adults
d. females

____7. A surgical technician works:

a. on a patient floor
b. in an operating room
c. in the nursery
d. in the laboratory

___8. At the beginning of the day a surgical technician must wash his hands for:

a. 1 minute
b. 5 minutes
c. 10 minutes
d. 30 minutes

___9. The main responsibility of the X-ray technician is to take X-ray films called:

a. photos
b. still lifes
c. radiographs
d. negatives

___10. X-ray technicians must take certain precautions to protect themselves from over exposure to radiation. One such precaution is:

a. wearing a mask
b. wearing lead aprons
c. wearing rubber gloves
d. wearing plastic hats

___11. The field of Inhalation Therapy deals with people who have which one of the following problems:

a. breathing
b. skin rashes
c. bone disease
d. foot problems

___12. In Inhalation Therapy, a "bird" is a:

a. respirator
b. fine-feathered friend
c. iron lung
d. young nurse

___13. An Inhalation therapist must have an understanding of which one of the following areas:

a. liquids
b. solids
c. gases
d. mixtures

___14. A Licensed Practical Nurse must attend school for:

a. 3 years
b. 1 year
c. 7 years
d. 5 years

____15. To become a Registured Nurse, you must attend school for

a. 2, 3, or 4 years
b. 4, 5, or 6 years
c. 1, 2, or 3 years
d. 6, 7, or 8 years

____16. The R.N. and L.P.N. carry out the orders of a:

a. doctor
b. physical therapist
c. dietitian
d. patient

____17. The main responsibility of a dietitian is to:

a. plan meals
b. prepare food
c. type menus
d. sample dinners

____18. If a patient is placed on a low sodium diet, they must cut down on which one of the following:

a. soda
b. water
c. salt
d. pepper

____19. In order to become a pharmacist, you must complete:

a. 3 years of specialized training
b. 5 years of college
c. 4 years in the navy
d. 1 year in the army

____20. The "E.R." in a hospital is the:

a. Ether Room
b. Ecology Room
c. Emergency Room
d. End Room

NAME _____ DATE _____

OFFICE OCCUPATIONS

DIRECTIONS: On the lines to the left of the questions below, write the letter of the answer which best completes the statement.
(or letters for answers)

_____ 1. A secretary is a person

a. that is young and pretty
b. qualified, skilled and efficient
c. is married to the boss
d. takes care of the company's money

_____ 2. How many clerical workers are there in the United States?

a. 11 million
b. 6 thousnad
c. 300

_____ 3. Only the following people work in offices:

a. men
b. women
c. both of the above

_____ 4. To work in an office you must be how old?

a. 16
b. 12
c. 29

_____ 5. What machines would be found in an office?

a. adding machine
b. typewriter
c. refrigerator

_____ 6. An insurance company protects:

a. people and property
b. all things
c. snow and rain
d. suicide

_____ 7. Banking involves:

a. money
b. checks
c. credit cards
d. all of the above

_____ 8. Office workers are generally found in:

a. banks
b. restaurants
c. insurance companies

_____ 9. When you go to a job interview:

a. take your friends
b. don't ask questions
c. dress sloppy
d. dress neatly and ask questions about the job

_____ 10. Beginning salaries in an office start at:

a. $85.00 a week
b. $120.00 a week
c. $56.20 a week

_____ 11. When you have a job interview

a. be late, so that they think you are cool
b. try to fool the interviewer
c. lie about your age
d. fill out the application as accurately as you can

_____ 12. The following banks are found in the city of Hartford:

a. Society for Savings
b. R.I. Hospital Trust
C. Connecticut Bank and Trust
d. Connecticut Savings and Loan

_____ 13. The following insurance companies are found in the city of Hartford:

a. Aetna Life and Casualty
b. Travelers
c. Metropolitan Life Insurance
d. Allstate

_____ 14. The job of a secretary includes:

a. typing
b. taking dictation
c. answering the phone
d. all of the above

_____ 15. A key punch operator

a. punches holes in IBM cards
b. passes out the key to the ladies room
c. punches in on the time clock when office workers are late

_____ 16. A stenographer

a. takes dictation using shorthand
b. draws pictures to decorate the walls of the office
c. counts the money the company takes in

_____ 17. A bank teller
a. counts the money
b. records deposits and withdrawals
c. safeguards the bank's cash
d. both (a) and (b)

_____ 18. An insurance underwriter
a. investigates deep-sea accidents
b. decides how much insurance a person should have
c. insures boats, ships and submarines

_____ 19. A claims representative
a. represents people in court
b. investigates an accident to get all the facts
c. is a detective like SHAFT
d. complains

_____ 20. A programmer
a. watches special programs on T.V.
b. writes the instructions for the computer to work
c. types on a key punch machine

_____ 21. Who has more power in a company?
a. Board of Directors
b. Stockholders
c. President
d. Clerical workers

_____ 22. A stockholder can:
a. work in a factory
b. receive money from the company
c. vote on company policies
d. all of the above

_____ 23. A corporation is
a. a lot of people
b. a business
c. an organization that makes something
d. a business owned by the stockholders

_____ 24. To work in an office you must complete:
a. high school
b. Fox Middle School
c. the army
d. college

HOTEL - MOTEL QUESTIONNAIRE

DIRECTIONS: On the line to the left, write the word that best completes the statement.

_____ 1. In the Hotel-Motel Industry the Front of the House is often characterized as the _____ of the hotel.

a) nerve center b) contact point c) liason between guest and hotel d) all of these

_____ 2. The principal factor that determines the guests' attitude toward the hotel is _____.

a) rooms b) food c) beverages d) service received

_____ 3. The very nature of hotel keeping places strong emphasis on _____.

a) machines b) food c) people d) construction

_____ 4. Hotel jobs which a person takes in the hopes of advancing through the ranks are called _____.

a) Entry jobs b) skilled jobs c) managerial jobs d) technical jobs

_____ 5. Two of the most important aspects of the Hotel-Motel Industry are the _____ and _____ of all departments and people.

and

_____

a) specialization and mechanization b) cooperation and coordination c) technology and management d) none of these

_____ 6. The majority of the hourly paid jobs in a hotel are of a _____.

a) semi-skilled b) skilled c) unskilled d) none of these

_____ 7. Which one is not a function of the Front Office of the Hotel? _____

a) to process reservations and all communications with person's seeking the hotel's accomodations b) to register guests and assign rooms c) to provide financial and credit accomodations d) serve food. (Use the correct letter for the answer)

_____ 8. The word "cater" means to _____.

a) display b) produce c) supply d) none of these

_____ 9. The catering department provides for _____.

a) food b) beverages c) service d) all of these

_____ 10. Training, experience, and individual initiative are the keys to a large extent in the _____.

a) executive, managerial level jobs b) entry jobs
c) skilled jobs d) none of these

APPENDIX

Evaluation Forms

TEACHER EVALUATION

Some of the objectives of the World of Work Career Orientation program are listed below. Please help us to evaluate the effectiveness of the program for this initial year by indicating in the appropriate space the degree to which you feel these goals were achieved.

	Excellent Good	Fair	Poor
• To provide students with more information on the demands and realities of the working world.			
• To provide students with experiences and information in the systen which supplies man with his economic goods and services usually referred to as the World of Work.			
• To develop in students a respect for work and an appreciation of its importance in the individual's and society's well being.			
• Provide appropriate assistance for each student in terms of his needs in making decisions in relation to career studies and in resolving his individual problems.			
• Provide appropriate situations for students to have an opportunity to make decisions, to discuss and examine the decision making process and to understand the basis for evaluating one's decisions.			
• To provide motivation to students for broadening their horizons and to give them the opportunity to develop more adequate self-images.			
• To provide students with experiences and information by which they can begin to manage and modify the environmental factors to insure a satisfying impact upon their career future.			
• To develop closer ties between the school system and the people served by it with the hope this will permit optimum utilization of community resources including the advice, participation and counsel of local organizations.			
• To provide middle school students with a realistic method of investigating the World of Work.			

10. Do you feel this program should be continued next year?

11. What changes or improvements would you suggest in the program for the future?

12. Do you feel a program such as this would be of value to other schools?

13. Do you feel parents should be asked to participate to a greater degree in this program?

14. Any other comments you might like to make about the program.

STUDENT EVALUATION

Some of the objectives of the World of Work program are listed below. Please place a check ( ) in the columns to the right indicating how well you feel this goal was achieved.

	Excellent	Good	Fair	Poor	
1. To help students gain more information about the World of Work.					
2. To aid students in better understanding their personal strengths and limitations with respect to occupations they observed.					
3. To help students in planning their high school or technical school programs in order to reach tentative career goals.					
4. To help students explore related fields of work and specific occupations in which they are interested.					
5. Through class activities to teach students how to work better with others as well as other personal traits needed to be a successful jobholder in the future.					
6. To help students understand the importance of their present school studies with respect to getting and holding a job in the future.					
7. To teach students how to go about making decisions.					
8. To aid students in organizing and planning their career goals.					
9. To acquaint students with the many types of educational and training opportunities there are available to them.					
10. To acquaint students with the various books, periodicals, organizations and personnel that are available to help them in making career decisions.					

11. Do you feel this program should be continued in this school next year?

12. Would you recommend this course for your friends? Why?

13. What other career areas would you have liked included in this program?

14. Do you feel parents should be asked to participate more in the program?

15. What other suggestions do you have for improving this program?